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24 June 1982

EAST EUROPE REPORT

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APPLICATION OF NEW ECONOMIC MECHANISM IN FOREIGN TRADE

Sofia VUNSHINA TURGOVIYA in Bulgarian No 4, 1982 pp 4-9

[Article by Kosta Nikolov, candidate of economic sciences: "Features of the Economic Mechanism for Foreign Trade Control during the Eighth Five-Year Plan"; passages enclosed in slantlines printed in boldface]

[Text] The 12th BCP Congress placed at the center of our foreign economic policy during the Eighth Five-Year Plan and up to 1990 a rise in the efficiency of foreign economic activity and the closest possible linking of production with the requirements of the international market. The rise in the efficiency of foreign economic relations has resulted objectively from the general intensification of the national economy and is a concrete manifestation of its efficient development. On the other hand, due to the dimensions and distinctive features of our socialist economy its intensive and efficient development is possible only with a continuous expansion and intensification of foreign economic relations. Thus, the basic targets set by the congress in the field of foreign economic relations prove to be objectively linked and intertwined: the efficiency of foreign economic activity will develop if national production is linked as closely as possible with the requirements of the foreign market and, by linking production as closely as possible with the international market, the aim is to achieve a rise in the efficiency of foreign economic relations and of the entire economy.

The basic targets in the area of foreign economic activity are at the center of the economic mechanism that is being applied during the Eighth Five-Year Plan: through it, the necessary conditions and preconditions are being created for the closest possible linking of national production with the foreign market and for the efficient conduct of foreign economic relations.

In this regard the following features of the economic mechanism in the area of foreign trade can be pointed out: first, a rise in the role of economic organizations in connection with foreign trade activity; second, an increase in the importance of foreign trade organizations; third, an intensification of the economic character of the relations between the economic and the foreign trade organizations; fourth, a reinforcement of the economic incentives for exports.

1.

/The rise of the economic organization's role in connection with foreign trade activity/ is a logical consequence of the expansion of its rights and responsibilities in the country's overall economic life and of its becoming established as the basic structure and economic unit of the national economy. Of special importance in this regard are Comrade T. Zhivkov's treatments at the October conference (1981) of the owner and proprietor of socialist property, of the necessity for the extension of commodity and monetary relationships at the present-day stage of our development, of the economic organization as a commodity producer directly connected with the domestic and foreign market, and of the necessity for the commodity producer to take strictly into account objective trends in the development of market needs and requirements and to adapt flexibly to these needs and requirements etc.

Specific trends in which the rise of the economic organization's role in connection with foreign trade is manifested are the following:

a) The economic organization is directly charged with state planned foreign-trade targets and is immediately responsible for their execution. This is especially important with the liquidation of the economic organizations' departmental subordination and the changes that have taken place in the character of the activity of the sectorial and functional ministries and other central departments.

The economic organization gets its state planned foreign-trade targets directly from the central planning bodies with a comparatively small number of indicators:

--for final economic results--physical volumes of exports reflecting the country's commitments under international treaties, agreements, protocols etc. for commerce, cooperative efforts and specialization etc.; monetary volume of foreign-exchange receipts from exports, broken down by directions, including the mandatory physical volumes, as well as other nonmandatory output;

--for provision of resources--import limits for basic raw materials, supplies, fuels, energy and scarce machinery and equipment; foreign-exchange limit for imports in the second direction.

In addition, economic organizations are advised of regulatory norms related to foreign trade activity: import duties and fees for the budget; planned foreign trade prices; schedule of interest rates for the use of loans in leva and in foreign exchange for exports and imports; schedule of commission charges for foreign trade organizations etc.

On the basis of fixed state planned targets and regulatory economic norms, the economic organizations formulate their open foreign-trade counterplans with all the indicators--physical volume, foreign-exchange receipts, financial results, efficiency, apportionment by producer and consumer enterprises etc.

In comparison with the economic mechanism applied during the last years of the Seventh Five-Year Plan, a number of qualitative improvements and new aspects have been made in the economic organizations' planning of foreign trade activity: the mandatory physical volumes of exports reflect only quantities included in

international treaties, agreements, protocols etc.; the limit on imports from the first direction is not a binding, but an accounting indicator; the economic organizations are given the right to form the structure and assortment of the so-called "other nonmandatory output," i.e., the difference between the value of the mandatory physical quantities on the basis of planned foreign-trade prices, and the amount of planned foreign-exchange receipts from exports, broken down by directions; financial means of exerting influence on exports are differentiated and specifically directed by the differentiation and delimitation of the subsidies from export bonuses etc.

The decreased number of mandatory planning indicators inevitably raises the economic organizations' responsibility and creates the possibility on their part of achieving flexibility and conducting economic activity. If free production capacities are available, they can apply for additional imports through a bank loan, which they repay, with interest, from additional exports of commodities;

b) The economic organization assumes the economic (foreign-exchange and financial) results of the sale of its output in the foreign market. This scenario presupposes a comprehensive approach and an active attitude by the economic organizations towards the foreign market: study of its needs and trends of development; adaptation to its requirements; achievement of economic results by their participation in the international market.

The mechanism envisages¹ that the economic organizations will draw up their plan on the basis of preplan studies, an important element of which is forecasts of the development of the international economic markets. They must also take into account the actual technical and economic conditions for sales in the foreign market, as well as the needs for individual types of output. The requirement of effective use of the economic organizations' production capacities² with a continuous growth of our export quota can be achieved with high efficiency assured by their participation in the international division of labor, on the basis of broad and effective international cooperation.

The suggestions, made by the foreign trade organizations during the drawing up of the economic organizations' counterplans,³ for improvement of the import and export structure, for increasing the efficiency of foreign trade activity and for information about the status of and prices in the international market etc. will be a concrete sign of international conditions and requirements of the foreign market.

The economic mechanism grants the economic organizations the necessary economic prerequisites for successful execution of state planned foreign-trade targets and for active utilization of the foreign market in the development of efficient economic activity: they have broad powers to manage the material and technical base of production; according to plan, they are given scarce raw materials and supplies, machinery and equipment; they form various economic funds; they have the right of free association, with the development of foreign economic measures a priority. All this enables them to study the international market and adapt flexibly to its trends and requirements.

The sectorial features of the economic organizations are also taken into account in conducting relations with the foreign market. Thus in the export of agricultural

output a specific procedure is provided for the flow of mandatory state planned targets (they are assigned to the National Agroindustrial Union which allocates them among the okrug agroindustrial unions, while the latter allocate them among the agroindustrial complexes); formulation of the Foreign Exchange Fund (OAPS [okrug agroindustrial union] and APK [agroindustrial union]) is specific; export subsidies are granted directly to the agroindustrial complex; special regulations have been created governing the contracting for and export of unplanned agricultural output etc.

All this inevitably elevates the economic organization's role in connection with foreign trade.

2.

The economic mechanism of the Eighth Five-Year Plan /elevates the importance of the foreign trade organizations/ that carry on concrete day-to-day export-import activity and other specific foreign trade operations. Our commodity-specialized foreign trade organizations, which can be set up in various forms⁴ (as specialized units in the central administration of economic organizations, as foreign trade enterprises subordinated to economic organizations, as foreign trading companies serving several economic organizations, as foreign trade organizations outside the system of economic organizations) must go out into the foreign market.

A new factor is the intensification of the foreign trade organizations' independence qua economic units regardless of the form in which they are organized, which is manifested along a number of important lines.

Foreign trade organizations are obliged to play an active role in the planning of foreign trade activity: they give an opinion about the draft of mandatory state export-import targets, prepare their suggestions during the formulation of the economic organizations' counterplans, take part in drafting planned foreign-trade prices etc. At all stages of plan compilation, they give reasoned and substantiated proposals for improvement of the export-import commodity structure, for improvement of the efficiency and ability of our output to compete in the international market.

In the event that the proposals of the foreign trade organizations regarding the export-import plan are not accepted by the economic organizations, they can refer the question to the sectorial ministry and to the Ministry of Foreign Trade.

Foreign trade organizations receive independent control figures and state planned targets conformable with the specifics of their activity. These are primarily mandatory physical volumes of exports and imports in the proportion in which they serve the economic organization in question. Thus, the foreign-trade organizations' indicators assure execution of the economic organizations' state planned foreign-trade targets. Foreign trade organizations also receive obligations for exports on their own account and for foreign-exchange receipts from specific foreign trade operations.

For exports on their own account--planned or unplanned, the foreign trade organizations receive an export subsidy norm according to established procedure and enter the monies on their own Foreign Exchange Fund.

The support of foreign trade organizations is provided on a normative basis--they receive a norm for remuneration from commissions, as well as a norm for foreign-exchange outlays (business trips, expenses of the foreign organization and advertising).

All foreign trade organizations, regardless of their form or relations with economic organizations (with the exception of specialized units in the central administration which do not draw up an independent balance sheet) generate their own income broken down by uniform sources reflecting the distinctive features of their activity. These are the results of exporting on their own account, export-import commissions, standard deductions from the profit on reexport and other special operations, and the positive and negative results of actual foreign-trade prices as compared with planned prices. Formation of the maximum possible Wage Fund in foreign trade organizations is specific, too; it is regulated according to the following: increase or decrease of per-capita foreign-exchange receipts; positive or negative deviations from planned foreign-trade prices; revenues from reexport and other specific foreign trade operations.

Foreign trade organizations have the right to participate independently in an association of economic organizations.

The intensification of foreign-trade organizations' independence elevates them to the level of equal economic partners of economic organizations and increases their importance in the process of linking national production as closely and effectively as possible with the requirements of the international market.

3.

Foreign trade problems with the economic mechanism are regulated in a way that creates the possibility of /an intensification of the economic character of the relationships between economic and foreign trade organizations/. All practical export and import activity will be conducted on contractual principles of equal rights between economic and foreign trade organizations, with each of them proceeding on the assumption of its own financial interest and bearing economic responsibility for the results realized. The practical actualization of the opportunities presented by the mechanism will be one of the important directions taken in application of the economic approach to the development of overall economic activity.

Conditions for expansion of the contractual principle have been created even in the execution of state planned export-import targets. Mandatory physical volumes are fixed for groups of commodities or for individual important commodities. The volumes themselves are identically mandatory for the economic and for the foreign trade organizations. This holds true also for the planned foreign-trade prices set by the competent ministries. However, as regards product assortment, quality thereof, delivery times, provision of spare parts, technical servicing, maintenance etc.--all this may and must be the subject of negotiation, with the requirements of the foreign purchaser taken into account.

The export-commodity producing economic organizations, and the foreign trade organizations as equal economic partners freely negotiate the kind and quantities of other nonmandatory output with which the total of the planned target for foreign

exchange receipts, broken down by directions, is to be achieved. The contracts must include output that is of high quality and in demand in the international market. This creates similarly oriented economic interests in the economic and foreign trade organizations: they must be oriented towards the production of highly efficient output that will be sold at most favorable prices and on most favorable terms. Otherwise, unfavorable export results will ensue which will affect both the economic and the foreign trade organizations.

Without explicit indication in the prescriptive documents, the economic and foreign trade organizations must be given a prognostic orientation in the conduct of foreign trade activity. The problems of diversifying export output, of raising the quality and technical level thereof, of taking into account other requirements of the foreign market must be solved jointly while the economic organizations' medium-range and yearly counterplans are still in the process of being drawn up. Thus, on the advent of the planned period the necessary commodities that are efficient and in demand in the international market will be provided for execution of the state planned target. Otherwise, financial responsibility will be incurred, all the more so when it is borne in mind that foreign trade organizations may not during the period of the yearly plan refuse to negotiate for and purchase output which is the object of their activity, regardless of whether the sale thereof is assured.⁵ The way out of this unfavorable situation has to be sought through an increase in the activity of the foreign trade organizations, which, as it happens, are defending the interests of the entire national economy.

There is also the possibility that a high-minded conflict will develop between the economic and the foreign trade organizations over the question of foreign trade prices. Although these are fixed every year by competent state bodies, specific prices for individual assortments, qualities, transactions, seasons etc. will be negotiated between the producers and the exporters. This gives an opportunity to display flexibility and to seek, by joint efforts, an improvement of the actual foreign trade prices over the planned prices, all the more so because the differences are divided between the economic and the foreign trade organizations without the state participating. To be sure, inasmuch as the producers incur the foreign-exchange and financial results realized from exports, the requirement of the mechanism that these be brought in line with the actual export prices for their output is entirely logical.

The situation is similar with the norms fixed for remuneration from commissions. These are approved every year by the state bodies concerned, but the economic and foreign trade organizations are granted the right to negotiate among themselves. This is especially necessary in a number of economically expedient cases. The fixed norms are applied only when agreement cannot be reached.

As can be seen, most foreign trade activity can be conducted on a contractual basis between the economic and the foreign trade organizations, with these organizations guided by their own economic interests and responsibilities. Thus, the relationships among the various economic organizations take on a profounder economic character, which is in line with the requirements of the economic approach.

4.

An important feature of the economic mechanism of the Eighth Five-Year Plan is /the intensification of economic incentives for the conduct of export activity/.

Owing to the specific character of foreign trade as economic activity there is a peculiar combination of centralized management with the provision of economic incentives in its regulation. Thus, for foreign trade, unlike a number of other activities, centralized state planned targets are established.

Economic organizations are granted the right to choose themselves the form in which they conduct their foreign trade activity. However, in order to concentrate exports and imports in the hands of major commodity-specialized units suited to carrying on their foreign trade operations successfully in the foreign market, it is stipulated that the economic organizations' choice should be coordinated with the sectorial ministries and the Ministry of Foreign Trade.

All foreign trade activity, regardless of the form in which it is conducted, is guided and controlled by the Ministry of Foreign Trade in keeping with the requirements of the Law on Foreign Trade and the Regulations on its Enforcement. At the same time the Ministry of Foreign Trade is charged with a number of new tasks in connection with its general functional competence, bearing on the planning of foreign trade activity; the formulation of analyses, forecasts and conceptions of the development of foreign economic relations; the study of the international market and the influence exerted by economic organizations to improve the structure, expand the assortment, and improve the quality and technical standard of output; the conduct of a flexible price policy in the international market; the increasing of foreign-exchange and financial efficiency and the improvement of foreign trade administration. The Ministry of Foreign Trade guides, organizes and monitors personnel work in foreign trade organizations regardless of their structure or subordination.

All this shows that the mechanism provides for the intensification of state guidance and monitoring in the conduct of foreign trade activity.

Nonetheless, preference is given to economic means and methods of control. Thus, the very fact that foreign-exchange and financial results of exports are reflected in the overall results of economic organizations has a strong incentive role. Economic organizations have an economic interest in raising the efficiency of production and export activity.

The mandatory planning indicators in exports are reduced to a minimum, and these serve rather as reference points for economic activity without restricting the conduct thereof on the basis of economic interest and economic liability.

A special economic measure is provided which will give economic organizations an incentive or penalize them in the event of overfulfillment or nonfulfillment of the plan for foreign-exchange receipts, more particularly from the nonsocialist countries. In the event of plan overfulfillment, the economic organization receives 0.50 lev from the state per foreign-exchange lev, and when it fails to fulfill it,

it pays a penalty to the state in the same amount. Thus, the stability of planned foreign-exchange receipts is assured by economic--in addition to administrative--means.

A significant economic incentive is represented by the right given to the economic and foreign trade organizations to divide between themselves the positive and negative deviations from planned prices without the participation of the state. This, too, impels the economic organizations to seek possibilities of raising export efficiency.

An important economic element is incorporated as an incentive through the formation of the economic organizations' Foreign Exchange Fund. Fund receipts depend on the volume of foreign exchange receipts and the degree of overfulfillment of the planned state target. This objectively impels the economic organizations towards the expansion of exports and the realization of additional foreign-exchange receipts on an efficient basis.

In economically justified cases the state can provide incentives by financial means for economic organizations to expand the production of commodities that are highly efficient and in demand in the international market. State financial assistance is also founded on an economic basis: it is rendered by way of exception and provided that there are objective reasons temporarily deflecting the volume of sales below production costs; funds are granted on a normative basis, and--what is more--to a production economic organization. That is why there is no possibility, by reason of state financial assistance, of inefficient exports being sold with the foreign-exchange selling prices being artificially lowered. The economic organization has an economic interest in high export efficiency, while the foreign-trade prices are planned in advance and monitored currently by the Ministry of Foreign Trade and its foreign agencies in keeping with the trends in the development of world prices.

In the Ministry of Foreign Trade a special Export Encouragement Fund has been set up, with the resources of which economic and foreign trade organizations are given incentives for the production of export goods, improvement of their packaging and labeling, flexible redirection of exports and skillful utilization of the interplay of forces in the international market in order to realize above-plan foreign-exchange receipts etc.

As can be seen, regardless of the intensification of centralized state management of foreign trade activity, economic means and incentives predominate in its control. In keeping with the general principles of the economic mechanism, foreign-trade and associated production activity are conducted for the most part on an economic basis.

FOOTNOTES

1. See article 151 of the Regulations on the Economic Mechanism, DURZHAVEN VESTNIK [State Gazette], No. 12, 1980.
2. See article 152 of the Regulations on the Economic Mechanism.
3. According to article 154 of the Regulations on the Economic Mechanism.

4. See article 100 of the Regulations on the Economic Mechanism.
5. See articles 308 and 316 of the Regulations on the Economic Mechanism.

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FOREIGN TRADE PRICE FORMATION DISCUSSED

Prague ZAHRANICNI OBCHOD in Czech No 2, 1982 pp 16-21

[Article by Jiri Zemlicka: "Forecasting the Development of Foreign Trade Prices"]

[Text] Experience gained in compilation of annual, medium-term and long-term plans for the development of national economy and their coordination within CEMA member countries shows that compilation of plans for development of the national economy correlated in all its branches and sectors calls for anticipation of future economic development and factors that will affect it in a decisive manner.

It turns out that there is a need for working out reliable comprehensive forecasts of economic development with the objective of determining the probable level of economic indices which the national economy can achieve in a given period as a whole and in its decisive sectors under the effects of internal and external factors that affect development of the national economy to the greatest extent.

Wide participation of the Czechoslovak economy in the international distribution of labor requires that a part of overall national economy forecasts be formed by prognoses for the area of international trade with socialist and nonsocialist countries. In connection with the increasing importance devoted by individual CEMA member countries to improved effectiveness of international trade, there is also a need for working out prognoses of the development of foreign-trade prices.

Price forecasts should first of all provide as comprehensive information as possible about the development of the overall price level, about development of the prices of key raw materials and products (and their groups), but also about factors which affect this development most strongly; they should be classified according to key politicoeconomic groupings of socialist and nonsocialist countries.

A thoroughly worked out forecast of development of prices attained during imports and exports on foreign markets, based on anticipated worldwide price development, can provide some of the significant documentation for decisionmaking and future orientation of territorial and commodity policies of foreign trade and its effectiveness, orientation of investment policy, etc.

This commentary lists some of the problems encountered in compilation of price forecasts in application to worldwide price development of selected raw materials and their groups. Examination of problems attendant to price forecasts is focused on worldwide price development primarily because:

--worldwide price development is also the decisive factor affecting the development of prices attained in Czechoslovak foreign trade;

--worldwide price development affects the development of international trade and is a certain reflection of the development of the world economy;

--prices on the world market are very often subject to unforeseeable and sharp fluctuations whose intensity and duration widely differ from one group of raw materials and finished products to another;

--the factors affecting this development are many; the impact of their effects is very hard to foresee, particularly if their impact is combined with that of several other effects which are mutually reinforcing or contradictory;

--according to the resolution of the Ninth CEMA Plenum, world prices form the basis for determination of contractual prices in trade among CEMA member countries;

--a substantial part of Czechoslovak exports and imports materializes on markets of nonsocialist countries which are subject to the full impact of world prices with their characteristic fluctuations;

--determination of the effectiveness of capital construction, particularly construction of production capacities whose production will be destined for exports to foreign markets, calls for using world prices as a criterion for assessment of the advantage of sales at a time when Czechoslovak products start reaching foreign markets.

The Purpose of Price Forecasts Compilation

Price development forecasts should, first of all, outline the potential development of price levels of raw materials and finished products on the world market or in our imports and exports, or development of the price level of a larger assortment of goods that can occur in a given period.

It must be emphasized that price forecasts can only outline the possible development or price level for specific types of goods or their groups. The term "potential development" must be used mainly because development of prices on the world market is affected by a number of various factors, whose effects are unusually different from the viewpoint of the intensity of their effects on the development of price levels, the duration of their impact, their combination with other factors (where the impact of individual factors may be reinforcing or attenuating), recurrence in short periods of time with an entirely different intensity and effects, etc. Under such conditions, when the impact of some effects is totally unexpected, the price level of specific types of goods or the price level of their groups cannot be determined with

any precision. A price forecast is essentially a hypothesis of future price development.

The level of predicted prices can be considered to be a certain price indicator which tells us that under certain economic circumstances which have been taken into consideration and have a determinant effect on the development and level of prices--provided no extraordinary circumstances arise on the world market (in production, trade, consumption, monetary relations, etc.), the prices of certain types of goods can fluctuate at a level which is close to their predicted level.

The basic contribution provided by prediction of prices consists primarily in the fact that in connection with specific economic indicators it offers supplementary information about the future development of value relations in specific economic sectors from the viewpoint of future price development. It offers a more realistic view of plans for economic development in the coming periods that will be closer to reality than if the future development in that sector were planned at the current price conditions.

These facts are the key causes affecting compilation of price forecasts.

It ought to be emphasized right at the beginning that compilation of price forecasts is a very difficult task. While physical volumes of production, consumption and international trade for all practical purposes develop as a continuation of the volumes attained in the previous period (production capacities are built, a certain level is attained in production and consumption, etc.) at a certain level achieved by the world economy as a whole in continuous development and do, with the exception of fluctuations in years of crisis, have a largely increasing tendency, there is, or does not tend to be, no such continuity in the prices of raw materials, basic materials and semifinished products. A certain amount of continuity can be found in the prices of finished products.

Prices of many raw materials fluctuate very strongly from year to year, whereby it is often impossible to anticipate the extent of the price fluctuation even for a brief period--in many cases not even while the fluctuation is occurring. These facts are characterized by Table 1 listing price changes between years for key raw materials and several groups of products imported and exported by the Federal Republic of Germany:

[Table 1 on next page]

Table 1.

2	Suroviny a hotové výrobky	1 Meziroční změny cen v % v období						
		1967—1970				1977—1980		
		1968	1969	1970	1977	1978	1979	1980
		1967	1968	1969	1976	1977	1978	1979
3	Ropa	105,4	91,7	94,1	100,7	87,0	128,1	161,8
4	Kamenné uhlí	98,0	97,3	104,5	98,3	94,1	100,9	116,2
5	Měď	107,9	121,1	90,8	85,6	89,6	130,8	109,8
6	Kaučuk přírodní	96,2	124,4	80,9	97,3	101,3	113,3	109,8
7	Železná ruda	98,4	97,7	113,2	88,7	86,1	101,3	119,8
8	Bavlna	103,5	91,2	98,5	90,5	85,6	99,6	111,6
9	Vlna jemná	90,5	95,7	82,0	95,8	90,0	105,8	109,6
10	Káva zelená	100,6	99,2	117,3	159,1	60,7	94,0	90,4
11	Kakaové boby	115,9	130,3	67,0	189,0	66,1	85,3	78,7
12	Cukr	98,1	107,0	110,2	67,6	86,9	110,6	229,9
13	Strojírenské výrobky	99,4	106,8	107,8	104,8	103,0	103,5	105,7
14	Chemické výrobky	96,9	101,0	99,1	97,9	96,7	109,9	108,3
15	Kancelářské stroje	100,2	99,2	97,3	99,9	99,0	98,2	99,7
16	Kožedělné výrobky	96,7	105,8	104,5	106,6	104,0	106,8	107,4
17	Potravinářské výrobky	96,1	100,6	102,4	104,4	95,1	99,7	102,0
18	Výrobky jemné keramiky	101,1	104,1	102,3	105,8	109,9	102,4	106,9
19	Elektrotechnické výrobky	98,8	103,3	104,1	100,0	100,5	100,5	102,5
20	Sklářské výrobky	100,3	103,1	100,4	104,2	102,2	103,2	109,0
21	Textilní výrobky	98,8	102,5	99,7	101,3	100,3	102,5	104,4

Key:

- | | |
|---|-------------------------------|
| 1. Yearly price changes in % for period | 12. Sugar |
| 2. Raw materials and finished products | 13. Machining products |
| 3. Crude oil | 14. Chemical products |
| 4. Bituminous coal | 15. Office machines |
| 5. Copper | 16. Leather products |
| 6. Natural rubber | 17. Food products |
| 7. Iron Ore | 18. Fine ceramics products |
| 8. Cotton | 19. Electrotechnical products |
| 9. Fine wool | 20. Glass products |
| 10. Unroasted coffee beans | 21. Textile products |
| 11. Cocoa beans | |

The data in Table 1 show that world prices of raw materials over a period of years reach in individual years as much as tens of percent up or down; prices of finished products show considerably lower fluctuations--retaining a more permanent trend for longer terms.

The larger the entities formed by grouping of individual types of raw materials, the more compensation there is in price fluctuations for individual types of raw materials. That is shown in Table 2 computed for an assortment of raw materials monitored in the statistics of the MONTHLY BULLETIN OF STATISTICS and containing some of the raw materials listed in Table 1 (changes are expressed in percentages in comparison to the preceding year).

Table 2.

2	Skupina surovin	1 Vývoj cen vybraných skupin surovin v %						
		1973	1974	1975	1976	1977	1978	1979
3	Suroviny celkem	46,2	82,5	-3,8	6,0	10,4	1,7	29,4
4	Paliva	39,1	203,1	3,1	6,0	9,4	0,9	41,0
5	Neželezné kovy	43,2	23,6	-23,7	9,0	7,3	7,7	32,5
6	Textilní suroviny	92,5	-5,4	-18,0	22,0	0,0	0,8	8,9
7	Nápojové suroviny	27,3	23,8	-3,8	79,0	79,3	-29,6	2,2
8	Obilí	82,2	43,9	-15,3	-10,0	-8,9	23,2	18,8

[Key on next page]

Key:

1. Price development of selected groups of raw materials in %
2. Group of raw materials
3. Total raw materials
4. Fuels
5. Nonferrous metals
6. Textile raw materials
7. Beverage raw materials
8. Cereals

Attenuation of large price fluctuations for individual types of raw materials within a given group is due to great differentiation in the intensity of price development which occurs within the given group for individual types of raw materials (prices of some raw materials show a steep increase, others only a moderate increase, or even decrease). Deviations in price development for selected raw materials from the average price increase for the entire group of such raw materials, coinciding as to their origin or general application, are often quite pronounced. That is shown in Table 3--outline of price increases in the period 1975 through 1980 (1975 = 100):

Table 3.

1 Období	2 Vývoj cen v letech 1975 až 1980									
	3 textilní suroviny			4 neželezné kovy						
	celkem 4	bavlna 5	vlna 6	juta 7	celkem 8	měď 9	ořovo 10	zinek 11	čín 12	
1976	122	132	110	91	109	114	108	98	112	
1977	122	127	118	89	117	106	148	82	159	
1978	123	125	123	110	126	111	162	81	188	
1979	135	133	142	111	167	161	281	100	223	
1980	155	156	161	108	186	177	222	103	246	

Key:

- | | |
|-----------------------------------|-----------|
| 1. Period | 7. Jute |
| 2. Price development in 1975-1980 | 8. Total |
| 3. Textile raw materials | 9. Copper |
| 4. Nonferrous metals | 10. Lead |
| 5. Cotton | 11. Zinc |
| 6. Wool | 12. Tin |

Price development on the world market is affected by a number of factors. As their effects are simultaneous (some being contradictory, others acting in parallel and thus increasing their intensity), it is impossible to determine with any degree of accuracy that prices of certain products and raw materials will be at a certain level during a specifically defined period and that this level will in actuality be matched. Such perceptions regarding the character and accuracy of price prognoses would be unreasonable, mainly because the extent of the impact of the effects of individual factors on increase or decrease in prices cannot be accurately delineated.

Nevertheless, from the long-term viewpoint, price changes do have their maximums and minimums that cannot be exceeded for a long period of time. This, on the one hand, is constituted by the amount of one's own cost, below which the prices cannot drop in the long run, because that would translate

into curbing of production; on the other hand, excessively high prices over a long period of time would lead to increased profits for manufacturers; while the latter would stimulate expansion of production, they would also force the consumer to look for substitute sources of raw materials, increased economy in material consumption and introduction of new technologies.

For that reason, world prices in the long run can fluctuate only within a certain range of tolerance. Of course, these ranges of tolerance can be highly exceeded for short periods of time.

Let us now have a look at some of the problems that must be dealt with in connection with compilation of price forecasts for longer periods of time.

Key Factors Affecting Price Development

Price forecasts call for detailed analyses of price development and factors that affected this development in the past years and an assessment whether and to what extent and intensity these factors could affect development of prices in the future.

Assessment of the effects of individual factors on the development of world prices calls first of all for finding out what their effects were in the analyzed period, of what intensity their effects are at the time when the forecast is being prepared, whether the factors involved have long-term effects or whether the impact of their effects is limited to a relatively short period of time, whether they are nonrecurrent or recurrent effects, in what sequence and to what extent it is possible, e.g., to take them into consideration in preparing the forecast.

Factors whose effects do not cause conspicuous price changes in short periods of time can be considered long-term and thus, while their effects are not particularly pronounced, they regularly and permanently affect the price level in a certain direction.

These include primarily: development of productivity of labor, production costs, geographical and geological conditions (e.g., exploitation of richer or poorer deposits), development of the economy in key economically advanced countries, development of international commodity exchange, development and orientation of capital investment and technical progress in individual sectors of the national economy, the extent of the national economy's participation in the international distribution of labor, progress of specialization and cooperation in production, improvements in technology, emphasis on mass production, international agreements regarding price regulation on foreign markets, formation of certain integrational groupings of countries toward pursuing a common pricing policy, development of state subsidies and restrictive policies and other interventions and measures taken by countries that are of a long-term character, development of the monetary situation in countries of key world suppliers and customers, climatic conditions, extent of crop rotations, working skills and industriousness of the populace.

Factors which do affect the price level over a limited period of time with high intensity can be considered short-term, but as soon as their causes cease to operate, their effects stop either completely or recur only after a very long time (often beyond the forecast period). The price level is affected by them with relative strength, but for only a short period, and once they cease to operate it usually returns to a level which is close to their initial level.

Among the factors with relatively short-term effects on the development of world and foreign prices at the key world markets are: political and economic upheavals in key areas of production and consumption and on key markets, development of boom trends in various sectors and development of supply and demand for the given commodity on the world market, development of speculation and effects of short-term measures (e.g., by monopolies) on the development of prices on a given market, operative protectionist or stimulative measures of a short-term nature taken by countries, wage and other socioeconomic conflicts in production regions or in key consumption regions, seasonal fluctuations caused by natural disasters, crop failures, short-term and unexpected monetary measures by countries, extreme developments on the international currency market, etc.

Many of these factors cannot be accurately classified as belonging among factors with long-term or short-term effects, because their impact varies with individual types of raw materials and finished products on various markets. Nevertheless, none of them operates in complete isolation, but in conjunction with other effects which, as to their impact, either mutually reinforce or limit one another. In addition, even short-term effects can have long-term consequences on the development of the affected products. For example, war in Korea in 1950-1953 produced as a short-term effect a steep increase in the prices of raw materials and finished products; but while prices of raw materials started to decrease as early as during the second year after the war, prices of finished products retained their high level even in subsequent years. In the same way, destruction of coffee crops by frosts in Brazil in 1976 was of a short-term nature, but its consequences persisted for several more years.

Primary consideration in compilation of price forecasts must be given to long-term factors which determine the price level development for long periods of time, even though it is the short-term factors that have a decisive influence on the actual development of prices in a given year and cause a deviation from their predicted level.

Uses of Price Forecasts

Price forecasts are to provide us with an idea of how prices can develop and what level the prices of raw materials or products and their groups in the coming years can reach, provided that the conditions on which the prognosis is based do indeed materialize.

Such price forecasts can be used primarily:

--for assessing the effectiveness of participation of the national economy in the international distribution of labor and its future development;

--in compiling proposals for annual, medium-term and long-term plans for international trade, particularly exports and imports, expenditures for imports and receipts for exports and the exchange mechanisms with foreign countries;

--in compiling the concept of overall investment policy, in implementation of investment construction of capacities, particularly in cases when the progress of construction projects is spread over several years and there is a need for computing the probable investment costs and when a certain portion of production from these capacities is also destined for exports (prognosis of probable export prices and effectiveness of exports, or of investment construction itself);

--in compiling long-term concepts for advisability of structural changes in the internal economy and their effectiveness from the viewpoint of future developments on foreign markets and in the world economy;

--in working out modifications of wholesale prices during revision of prices, particularly of raw materials, materials and finished products that are envisioned to remain valid over a long period of time.

Price forecasts can be used wherever there is a need for estimating future developments on the basis of value relations, as the forecasts themselves represent a certain hypothesis of potential price development in the future.

Length of Forecast Period

Since price forecasts can become a part of planned development of the national economy, the length of the period to be covered by the forecast must be determined, to include its more detailed subdivisions, in keeping with the period for which has been planned development of the given sectors of the national economy and of the national economy as a whole. Thus, price forecasts must become a part of the annual, medium-term and long-term plans. It must provide for the latter suitable documentation and realistically point out potential development of prices and the requisite value indicators for the planned period.

In this context it must be pointed out, however, that with the length of the forecast period the price forecasts understandably lose their power of prediction, because the longer the forecast period, the more unexpected factors can come to bear with varying intensity, their impact significantly deflecting the actual situation from the predicted situation. It stands to reason that this, to a certain extent, cannot be prevented from happening in the case of relatively short-term forecast periods (see, e.g., the great price boom on nonsocialist markets in 1973 and 1974, or destruction of the coffee crop in Brazil in 1976 which had serious long-term consequences on the amount and development of price levels).

Selection of Goods for Compilation of Forecasts

For all practical purposes, it is impossible to compile detailed price forecasts covering the entire assortment of goods that are a subject of foreign trade. Such a task is unmanageable from the viewpoint of the amount of work, aside from the fact that there is limited availability of reliable documentation regarding price development and factors that affect it, in such periods of times and series whose developmental trends and effects would promote reaching of reliable conclusions.

Thus, selection of goods must be limited, depending on the purpose which is to be served by price forecasts, to typical representatives of raw materials, products and their groups which are:

- significant export and import items in trade with socialist and nonsocialist countries;

- important imported raw materials, semifinished products and materials or products which are significantly represented in material expenditures for production and can, consequently, visibly influence processing costs and wholesale prices of manufacturing plants in production;

- significant products whose production is to be launched or expanded in the coming years and which will become very important for meeting domestic demand or exports; at the same time, the extent of production depends on the effectiveness of production and advisability of exportation to foreign markets at the time following launching those capacities into operation;

- prospective items that are subject to concentrated technical development and whose future position on foreign markets it is essential to determine from the viewpoint of effective marketing;

- important items that can characterize the price development of an entire group of raw materials or finished products.

Because development of prices of some types of raw materials is completely atypical and use of their developmental trends could considerably distort prognosis of the development for a whole group of raw materials, whose applications are relatively commensurate, it is necessary to compile forecasts for individual types of raw materials; in the case of products that do not show such differences in price fluctuations and price trends, it is possible to compile price forecasts even for homogeneous groups.

Of course, the selection and classification of raw materials and products and their groups must be totally subjected to the pursued purpose and needs which are to be served by price forecasts.

Prices Used in Compilation of Price Forecasts

In compilation of price forecasts, having predicted prices conform to future development as closely as possible calls for use price documentation of a market which:

--is sufficiently representative of our purchases or sales on the world market;

--affects the price level in the area where we do, or intend to do, our key purchases or sales;

--carries very important weight on the world market due to the fact that on it is concentrated key supply and demand for the given type of merchandise, that transactions involving it are done on the basis of routine commercial conditions, that reliable documentation is available regarding the prices attained at this market and that payments are here done, as a rule, in freely convertible currencies.

For these reasons, compilation of price forecasts in the CSSR can avail itself primarily of prices achieved on the West European market. At the same time, consideration must also be given to the conditions under which Czechoslovak purchases or sales do, or, more importantly, will take place. If, e.g., some types of raw materials are permanently procured in other areas and prices on those markets are entirely different (such as procurement of raw materials at one's own cost directly from producers), then these conditions must form the basis as long as it is envisioned that those sources will be retained and used in the future.

The initial foreign prices must also be corrected so as to comply with the payment and delivery conditions under which our purchases and sales are closed.

Length of the Initial Period

In compilation of price forecasts, it is very important to analyze and determine which factors and under what circumstances affect the development of prices and in which direction (increasing or decreasing). The extent of these effects can, of course, be determined only on the basis of an analysis of their former impact, assessment of their effectiveness, potential recurrence, the circumstances under which they operated, originated or ceased to operate, what other factors reinforced them or, conversely, attenuate them, etc. These findings can be obtained only on the basis of an assessment of price development in the past and the present.

Practice shows that the length of the initial period is very important to correct determination of which factors affect what type of products, and on what markets and with what intensity they affect price development.

For that reason, the initial period should immediately precede the beginning of the forecast period, so that those developmental factors which are operational toward the end of the initial period and will probably continue to operate are reflected in a suitable manner in the first years of the period for which the forecast is compiled. This is of particular importance to assessment of the intensity of the effects of some factors determining price development and to determination of the level of predicted prices.

Use of a short initial period as a basis for compilation of price forecasts offers advantages in that:

- it carries over operation of particularly those developmental factors and trends that have been most pronounced in the last years prior to the commencement of the forecast period;

- prognoses are not affected by circumstances that affected price development a long time ago and which could have ceased to affect development of prices and their level at the present or in the near future.

However, in using a short initial period the prognoses can be affected by some short-term factors that may remain operational, e.g., for only a single year, but with such intensity that they will affect the overall trend of price development. These cases can occur particularly in regards to the developments regarding certain strategic raw materials.

A long period of analysis offers advantages primarily in that:

- it eliminates or curtails the effects of short-term and extraordinary price fluctuations that can distort average price development in short intervals of time;

- it better reflects the overall long-term trends in price development and the effects of factors of a more or less stable nature which permanently mold the developmental trends in prices of specific types of raw materials and products.

On the other hand, considerations regarding the development of prices and the factors affecting them, based on long-term price development in the analyzed period, can also be partially affected by factors that were intensively active several years ago but need not recur in the forecast period.

In processing numerical documentation for determination of price trends in the forecast period, it becomes necessary to eliminate from the analyzed period all nonrecurrent price fluctuations which would tend to distort the future pricing trend. Factors that do regularly recur over long periods must also be eliminated but economic analysis shows that in a specific case their cycle exceeds the length of the forecast period.

Extraordinary attention must be paid to analysis of factors that can occur in the forecast period, their intensity, in which period they occur and, particularly, what are the basic long-term boom, technoeconomical and trade policy trends that as global factors could come to bear more strongly during the forecast period and reinforce the effect of specific price-setting factors. Correct evaluation, assessment and chronological classification of all of these factors constitute the most complicated part of price forecast compilation.

Thus, it can be stated that the length of the initial period during which are ascertained findings regarding the effectiveness of price-setting factors

that will probably be operational cannot be considered to be some definitely fixed interval of time. The decisive fact is not whether the analyses are based on 3-, 4-, 5-year or longer periods; of decisive importance is inclusion of all the key factors and correct estimation of their effects, as well as the eventual duration of the period for which the price forecasts are prepared.

Experience with such analyses and assessments shows that the length of the initial period should be approximately commensurate to that of the forecast period.

Problems of Mathematical Processing of Price Forecasts

Opinions often encountered in practice hold that price forecasts can be compiled on the basis of mathematical formulas that essentially represent extension of the existing price development into the future.

Technical literature lists a number of methods for mathematical processing of price development over longer terms that is based on extent developmental trends. Among the most widely used are particularly:

--linear balancing of price fluctuations by the method of the least squares, i.e., using a linear equation;

--balancing of price fluctuations according to an exponential curve, i.e., using an exponential equation.

Computations of hypothetical prices arrived at by the individual methods do not produce essentially differing results.

Let us now have a look at the results of computations using the method of the least squares and their comparison with the actual state. Let us base it on the following assumptions:

a) calculations will be done on the basis of price development over the past 10 years, i.e., for the years 1971 through 1980, in spite of the fact that in that period there occurred an extreme development of prices about which--as the last 2 years have shown--it cannot be responsibly stated that it will not recur in the future to a certain extent and in regards to some raw materials (and, consequently, in regards to finished products);

b) calculations will be done on the basis of seven types of basic raw materials and six types (groups) of industrial products;

c) calculations will be done with the use of a linear equation and comparison of the hypothetical level of the year 1971 and the year 1980 with the actual state; listed at the same time will also be indices of price deviations (hypothetical prices for the given years = 100) (Table 4).

[Table on following page.]

Table 4.

1	2	3	4	5	6	7	8
Suroviny	Cena za	Skutečná cena 1971	Odchylna hy- potetické ceny = 100 od sku- tečnosti	Hypotetické ceny podle propočtu	1971 průměr 1980 1971—1980	Skutečná cena 1980	Odchylna hy- potetické ceny = 100 od sku- tečnosti
9 Měď	stg/t	444,4	83,2	533,8	715,2	896,5	940,9
10 Zlato	\$/tr. oz	40,8	176,9	23,1	190,2	357,4	613,0
11 Kaučuk přírodní	p/kg	14,5	83,9	17,2	40,6	68,9	64,7
12 Bavlna SM	cts/lb	34,2	77,2	44,2	66,2	88,2	97,7
13 Cukr	stg/t	46,1	42,2	109,4	149,9	190,4	291,6
14 Káva	cts/lb	43,0	103,5	41,6	132,7	223,8	208,9
15 Kakao	stg/t	228,2	62,8	363,3	1 089,7	1 816,0	1 266,6
16 Hotové výrobky Indexy 1970 = 100 vývoz NSR							
17 Strojírenství		107,7	106,1	101,5	142,6	173,7	177,2
18 chemické		99,0	94,4	104,8	123,5	149,1	148,0
19 textilní		100,7	75,1	105,9	117,9	129,9	131,9
20 sklářské		105,0	96,8	108,4	128,3	149,1	156,0
21 Soustruhy		109,5	97,9	111,8	147,4	182,9	189,2
22 Dieselové motory		110,8	95,0	116,6	157,9	199,8	204,8

Key to Table 4:

1. Raw materials
2. Price per stg [pound sterling]
3. Actual price 1971
4. Deviation of hypothetical price = 100 from actual price
5. Hypothetical prices according to computation
6. Average
7. Actual price 1980
8. Deviation of hypothetical price = 100 from actual price
9. Copper 10. Gold 11. Natural rubber
12. Cotton 13. Sugar 14. Coffee 15. Cocoa
16. Finished products; Indices 1970 = 100; West German exports
17. Machining 18. Chemical 19. Textile
20. Glass 21. Lathes 22. Diesel engines

Table 4 shows that:

a) deviations of actually attained prices from hypothetical prices computed in the given case by use of a linear equation are much more pronounced in the case of raw materials than they are in the case of finished products. The key reason for this is the fact that changes in the prices of finished products are much smaller in individual years than those in the prices of raw materials. In addition, prices of finished products retain, for the most part, the same price trend (increase or decrease), while in the prices of raw materials there often occurs annual alternation of price increases and decreases (or at least in short time spans);

b) hypothetical prices for the years 1971 and 1980 are compared to the prices actually attained in those years. Nevertheless, there is no factual comparison of the actual state with the prognosis. But even if that were the case, practice shows that the price deviations would be the same or of an analogous nature.

c) price comparison was based on a 10-year price development. For instance, computations showed a permanently increasing trend in the prices of cocoa beans. More detailed calculations show that the average price increase for the whole decade is 161.4 pounds sterling per ton. However, if we divide it into two 5-year periods, the obtained results show that in the years 1971 through 1975 prices of cocoa beans increased by an average of 138.6 pounds sterling per ton at the average price of 500.7 pounds sterling per ton during that period. It follows that the prices of cocoa beans should keep on increasing in the coming years. They did actually keep on increasing through the years 1976 and 1977 and from there on there occurred a decrease (1978, 1979 and 1980), which in the end became reflected in the mentioned deviation of hypothetical price for 1980 from the actual price by 38 percent.

An analogous, even though not as intensive, development was registered in prices of coffee and many raw materials in which there occurred a steep price increase in the years 1976 and 1977, followed by a decrease in the subsequent years.

Let us now have a closer look at what price development looks like if we divide the mentioned 10-year period into two 5-year periods, using the specified method of calculation (Table 5).

Table 5.

1 Surovina	2 Cena	3 Hypotetický cenový přírůstek		4 Průměrný přírůstek	5 Hypotetické ceny r. 1980 podle let 1971-1975
		1971-1975	1976-1980		
6 Měď	Lstg/t	67,51	50,55	40,29	1 079
7 Zlato	\$/tr/oz	34,16	113,59	37,15	342
8 Kaučuk přírodní	p/kg	5,00	3,94	5,19	60
9 Bavlna SM	cts/lb	8,32	4,00	4,89	111
10 Cukr	Lstg/t	55,65	15,95	9,01	534
11 Káva	cts/lb	10,20	-1,11	20,24	135
12 Kakaové boby	Lstg/t	138,61	-130,01	161,42	1 471

Key:

- | | |
|--|---------------------|
| 1. Raw Material | 2. Price |
| 3. Hypothetical price increases | 4. Average increase |
| 5. Hypothetical 1980 prices according to years 1971-1975 | |
| 6. Copper | 7. Gold |
| 8. Natural rubber | |
| 9. Cotton | 10. Sugar |
| 11. Coffee | 12. Cocoa beans |

Table 5 shows how large are the differences between average price increases in the first and second halves of the seventies and how these increases differ from the overall average for the years 1971 through 1980.

Comparison of the price level computed on the basis of 5-year averages in the years 1971 through 1975 for the year 1980 and its level in relation to prices actually attained in that year, as well as comparison with the hypothetical price level computed on the basis of price development in the years 1971 through 1980, shows that neither of the mentioned mathematical methods is quite adequate for use in compiling price forecasts for raw materials and basic materials which are subject to steep price changes on foreign markets. The price deviations are too large.

Mere mathematical methods cannot serve as a basis for compiling long-range forecasts of price development on the basis of which it would be possible to undertake a deeper analysis of price changes or adjust economic policy in the sale or procurement of raw materials.

The situation is somewhat simpler in calculating the hypothetical prices of finished products.

Table 4 shows that hypothetical prices of finished products in 1980 deviate much less from the prices actually attained in that year.

Let us now have a somewhat closer look at what average price increases computed by means of the method of the least squares for the past years from 1970 (= 100) look like--Table 6.

Table 6.

1 Výrobky	2 Hypotetický průměrný cenový přírůstek v letech			3 Hypotetické ceny roku 1980 podle vývoje v letech 1971-1975
	1971-1975	1976-1980	1971-1980	
4 Strojírenské	8,88	6,46	6,91	184,6
5 Chemické	10,69	4,17	4,15	188,1
6 Textilní	5,30	2,49	2,66	147,8
7 Sklářské	5,42	5,93	4,41	153,9
8 Soustruhy	8,86	8,60	7,91	186,2
9 Dieselové motory	11,08	8,61	9,17	208,4

Key:

1. Products
2. Hypothetical average price increase in the years
3. Hypothetical 1980 prices according to development in the years
4. Engineering products
5. Chemical
6. Textile
7. Glass
8. Lathes
9. Diesel engines

Table 6 shows that price development in the case of finished products is much more regular than that of raw materials. Price deviations between actually attained prices and the prices predicted for 1980, in calculation of hypothetical prices on the basis of price development in the years 1971 through 1975, are also substantially lower than those for raw materials.

In the case of engineering products, this deviation is 4.2 percent (of which 1.8 percent accrues to diesel engines, 1.6 percent to lathes and 1.6 percent to glass products).

In those sectors or production branches where there are few processing stages between finished products and raw materials and development of prices of raw materials becomes more distinctly reflected in the prices of final products, the mentioned deviations are somewhat more apparent. In our case, these differences account for 12 percent in raw textile materials and for 27.1 percent in chemical products.

The mentioned numerical data regarding the development of prices for raw materials and finished products show that:

--considering the nature of price forecasts it is impossible to accurately determine the price level over a longer period of time on the basis of mathematical methods;

--excessive intensity of price changes between years creates a situation, particularly in the case of raw materials, where mathematically computed prices distinctly differ from hypothetical prices;

--somewhat more accurate data can be obtained in forecasting price development in finished products, where price fluctuations between years are not particularly pronounced and where there occurs a gradual price increase. Deviations of actual prices from predicted prices cover a relatively small range in the case of products requiring a larger number of processing stages.

Long-term forecasting of prices of raw materials on the basis of mathematical calculations (on the basis of linear equations) has no justification under these circumstances because the results arrived at are so inaccurate as to fail to provide an adequate basis for orientation.

Compilation of price forecasts for finished products has its justification, provided, of course, that it will be supplemented by economic analyses. After all, development of prices of finished products is subject to considerable and long-term effects of factors under the operation of which the effects of considerably changing prices of raw materials are gradually attenuated in direct proportion to the number of processing stages.

In spite of all this, mathematical methods cannot be rejected outright, as they may facilitate compilation of certain price forecasts. However, their use calls for making corrections in the documentary input data. This involves primarily the following adaptations:

--it is imperative to eliminate from the documentary input data all those extraordinary price fluctuations (increases and decreases) which could considerably distort price development in the initial period. An example of this is, e.g., an extreme price increase in the first year of the initial period, followed by a distinct price decrease in the second year and a moderate price growth in the subsequent years. In such a situation

mathematical calculations will show a price decrease, even though in most of the years the prices kept increasing. The objective of the mentioned corrections is to have the price trend show the routine price development affected only by factors that affect it the most and with greatest regularity and which can also become operational in the forecast period;

--elimination of an extreme price fluctuation translates, for all practical purposes, into elimination of 1 year from calculations. Its substitution by another year is a matter of judgement--it is possible, provided that the particular year characterizes usual price development that could become reflected in the forecast period.

Under this assumption, it is possible to make use of mathematical compilation of price forecasts even in the area of raw materials. Nevertheless, the data arrived at must be considered as only more or less orientational values that can be used with any degree of reliability only after making additional corrections and analyzing all factors that could become operational on the forecast period, inasfar as they can be identified and assessed during the forecasting stage.

For the above reasons, mathematical compilation of price forecasts must be viewed merely as a suitable aid for compiling the potential development of prices in the future, under the assumption that prices will be subject to the effects of the same factors that affected them in the preceding period, with identical intensity and results.

Basic Approaches to Price Forecasting

Practical experience shows that forecasting of foreign trade prices cannot avail itself of simple adoption of a uniform methodology and selection of a uniform procedure with general applicability that could be used for all types of raw materials and products--and their variously combined groups.

Nevertheless, some generally valid methodological procedures facilitating compilation of price forecasts were worked out. This involves primarily the following sequence of analytical processes:

a) There is a need for analyzing in great detail which factors affect the price development of a given commodity, under what economic circumstances they become operational on the foreign market and in a given sector of the national economy, what the intensity of their effects is and under what specific circumstances the prices of a given raw material or finished product increase or decrease.

There is a need for determining factors with nonrecurring and short-term effects and factors which affect price development over long periods, gradually or in certain cycles, what the duration of the cycle is, its intensity, etc.

This evaluation must be considered as the initial stage of price forecast compilation. The period for which the specified effects are studied cannot be

determined uniformly for all commodities; it should be such as to permit during its course familiarization with the operation of all decisive factors affecting the development of prices and which could recur during the forecast period.

b) Assessing the current situation and determining whether price development is occurring in a stage of increased or attenuated economic activity, which factors currently affect increase or decrease in prices, whether the current situation on the market forms part of a stage of the preceding pronounced price increase with a prospective further increase or decrease in prices, or a stage of decrease with potential lowering of prices or a slump leading to their growth, which factors caused this development, etc.

c) Whether the status quo will continue in the immediately following period, or whether consideration must be given to a change in the current developmental trend in the immediate future, why and in what potential extent.

d) What the development of world economy will be in subsequent years of the forecast period, what the probable development of economic activity overall and economic activity will be in a given sector of the national economy (branch, for a given group of products), how the world market for a given commodity will develop, what direction technical progress will take, what new technical improvements can affect finished products, how development of sources of raw materials and their exploitation will further progress, what direction consumption, interchangeability of raw materials and products will take, what new forms of world trade will be in the foreground, how the international monetary situation will be developing, payment and credit conditions, what potential rate of inflation could be expected in the future, whether some of the long-term cyclic phenomena will become manifest on the world market, which phenomena and approximately in what years, what new products could the competition come up with, what new forms of trade will it choose, how the market organization will develop from the viewpoint and behavior of key suppliers (competition, monopolies, oligopolies), what measures could be taken by countries in regards to foreign trade, to what extent will countries take protectionist or restrictive measures, what the effects of international raw material agreements will be, what the progress of economic integration of countries and their grouping will be and what policy they will adopt against third countries.

These studies, in comparison to analogous studies carried out in the sixties (when price development could be approximated from several parameters characterizing development of the world's economy and the economy of a given sector) are much more demanding at the present because price development today is affected by many often completely unexpected factors and also factors whose effects on price development are known, but often manifest themselves with greatly different effects.

Practical experience shows that compilation of price forecasts for raw materials, particularly those with prices listed on world exchanges or those showing considerable price fluctuations, will have to give preference in

prognoses to economic analyses and assessments and the logical economic conclusions derived from them.

In forecasting the prices of finished products and raw materials whose prices show a certain continuity in chronological sequence (as the result of, e.g., development of production and improving technical level of products) and whose price fluctuations on foreign markets are inconspicuous, use can be made of auxiliary information in the form of hypothetical prices computed on the basis of one of the mathematical methods. The data so obtained can be used as, more or less, merely a guideline and a tool for orientation. In every case, such computations must be accompanied by a deeper analysis which will help to bring the calculated hypothetical price closer to the potential real price.

Compilation of price forecasts is a matter of experience consisting primarily in economic acumen for assessing the extent of the effects of key price-forming factors on the development of prices and in foresight, which with the use of extensive documentary analytical material will make it possible to determine the forecast price at a level approximating the range of a future actual price.

It cannot be expected that longer-term price forecasts, even though based on experience and scientific findings, could determine prices with an accuracy that would be partially identical with the actual prices. Such notions are grossly exaggerated.

Much greater accuracy in price forecasting can be achieved by short-term projections of price forecasts of 6 months, 1 year or even 2 years. The longer the forecast period, the less accurate are price predictions from the viewpoint of their future materialization. For that reason, it appears advisable to make longer-term predictions that allow a certain amount of tolerance in development of prices. This can be followed up by deciding under what conditions production or exports will be advantageous, or still so advantageous, in the future. This tolerance cannot be uniform for all raw materials and products. It must take into consideration the amount of price fluctuations on foreign markets.

Determination of such long-term forecasts in which during the last years of the forecast period the predicted prices would coincide with actual prices cannot be considered as some kind of professional prowess, but the result of the sum of effects of various price-forming factors, and thus can be called only a mere chance occurrence.

Practical experience shows that price forecasts must be continuously updated in connection with appearance of new price-forming phenomena and the intensity of the effects of the determined price-forming factors that were used in initial compilation of price forecasts. Such updating must be done particularly in the case of raw materials (e.g., in agricultural raw materials in connection with the development of yield and harvesting).

Conclusions

More detailed studies regarding price-cost relationships in foreign trade, economic justification of the effectiveness of future investment construction and documenting the planned level of wholesale prices for future periods will call also in the Czechoslovak economy for unconditional compilation of short-term as well as longer-term price forecasts that should correspond to developments on foreign markets as well as on the domestic market.

This calls for anticipation of future economic development and the ability to express future price trends and the level of specific prices of raw materials, finished products or their groups in such a manner as to have them correspond with sufficient precision to future development and fit into the overall context of future economic development.

Such studies are primarily a matter of economic analyses and the acumen for anticipating future development on the basis of familiarity with the laws and continuity of development and the impact of key economic and technical factors on the development of prices. One of the aids herein can be mathematical calculations whose use depends to a considerable degree on the extent of price changes for specific types of raw materials and products.

Even if price forecasts can yield merely hypothetical prices, these prices can be an important indicator which characterizes the direction in which price development will be oriented in the future and, in consequence, indicate also the future measure of effectiveness of production and exports from the viewpoint of social costs for their implementation and the measure of effectiveness that our products can attain on foreign markets in the coming years. In this manner, we are offered significant glimpses that could provide suitable impulses for future orientation of economic development as a whole as well as orientation of production and participation in the international division of labor.

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AGRICULTURAL MACHINERY ORGANIZATION DESCRIBED

Bratislava EKONOMIKA POLNOHOSPODARSTVA in Nos 3 & 4, Mar, Apr 82

[Article in two installments by Eng Miroslav Spelina, Csc, Research Institute for Agricultural Technology, Prague-Repy: "Development of the Forms of Organizational Incorporation of Machinery in Czechoslovak Agriculture"]

[Mar 82 pp 121-124]

[Text] Agricultural production in the CSSR has undergone significant changes since the beginning of collectivization to the present time. There has been a distinct drop in the number of personnel, live tractive power has been practically eliminated from the production sphere, there has been an increase in the volume of production (with a simultaneous decrease in the acreage of agricultural and arable land), large agricultural enterprises of the cooperative and state-operated type have been formed. Live tractive power and manpower have been replaced by mechanized systems. Progress of the indicated changes can be seen in tables 1 and 2.

Period of Establishment of the Early JZD [Unified Agricultural Cooperatives]

One of the weightier problems connected with ongoing development was organizational incorporation of machinery. During the period that saw the establishment of the first JSD and state farms, mechanization equipment was allocated primarily to STS [State Tractor Stations] which, as a rule, serviced one district (the number of districts was higher than it is today).

The basic organizational unit was a tractor brigade servicing JZD and privately owned farms in an area covering 1,000 to 3,000 hectares of agricultural land (depending on the degree of socialization). It was headed by a brigadier with his deputy and their responsibility was to meet the contracted demand for services in both extent and deadline by allocation of the requisite machinery and operators (Fig. 1). The requisite quality of service was the province of the sectorial agronomist under whose jurisdiction were several tractor brigades. The tractor operator assigned to carry out a certain task in some agricultural enterprise received specific instructions pertaining to performance of the task from the JZD agronomist (or private farmer).

Care for the machinery and tractor inventory was provided by the STS itself, partly in workshops of tractor brigades and partly in its own central repair shop. It was based on a multistage system of technical maintenance based on monitoring of fuel consumption. For its time it was quite excellent. The STS kept detailed records down to the level of the individual machine, which facilitated monitoring of expenditures for and proceeds derived from it.

The JZD were then organizationally unstable and economically weak. However, the situation kept changing gradually (primarily in the economic sphere) and the disadvantages of the prevalent arrangement kept coming to the fore: Dual management of only partly mechanized agricultural production (manual labor was available in JZD), little interest by STS to intensify production, high state allocations for prices of mechanized operations. At that time, STS provided practically no technological transportation--that was carried out by JZD using primarily live tractive power.

Table 1. Selected Indicators Characterizing Czechoslovak Agriculture

Indicator	Unit	1950	1960	1970	1980*
Gross agricultural production	Kcs/ha	6,400	7,450	9,350	11,524
Full-time workers	persons				
	per 100 ha	25.2	18.5	15.8	12.7
Mobile power equipment	pcs per 100 ha	0.32	1.25	2.45	2.92
Value of long-term mechanization assets	Kcs/ha	1,004	2,096	3,930	7,903
Installed output of mobile power equipment	kW/ha	0.07	0.36	0.87	2.05

* as of 31 December 1979

Table 2. Development of Agricultural Enterprises in the CSSR in Number and Size

Indicator	Unit	1950*	1960	1970	1980
Unified agric. cooperatives					
--number		35	10,816	6,270	1,749
--average size	ha	233	420	631	2,476
State farms					
--number		185	365	331	162
--average size	ha	2,454	3,105	4,329	8,918

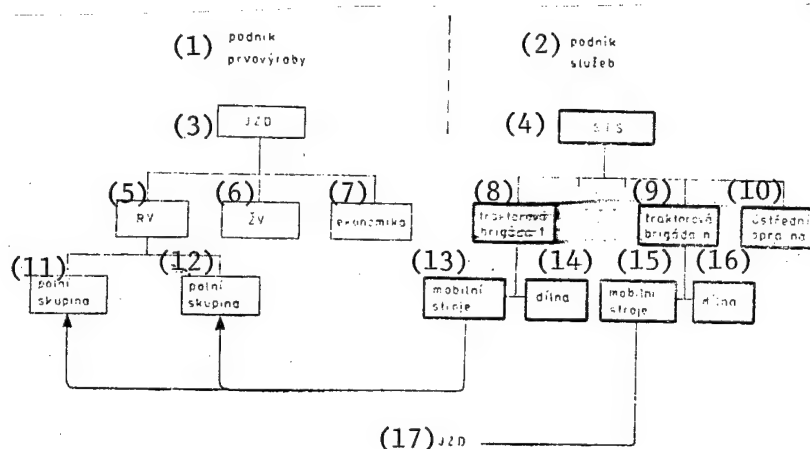


Figure 1. Incorporation of Machinery into STS During Socialization Stage

Key:

- | | |
|----------------------------------|-------------------------|
| 1. Primary production enterprise | 8. Tractor brigade 1 |
| 2. Service enterprise | 9. Tractor brigade n |
| 3. JZD | 10. Central repair shop |
| 4. STS | 11. Field group |
| 5. Plant production | 12. Field group |
| 6. Animal production | 13. Mobile machinery |
| 7. Economy | 14. Workshop |
| | 15. Mobile machinery |
| | 16. Workshop |
| | 17. JZD |

Transfer of Machinery Into Agricultural Primary Production

A major part of STS machinery was sold off in 1958 to enterprises engaged in agricultural primary production. However, at that time most JZD did not have qualified personnel for operation and maintenance of machinery--mechanizers. As a result, there developed two basically different forms of organizational arrangement: --A minority of JZD adopted the proven system of organization and management of machinery from the STS and formed an independent unit--the mechanization center (also brigade) providing for operation of machinery as well as care for its technical condition (Fig. 2). The formal aspect was not neglected either and basic records were kept about utilization of machinery using the STS system; --in most JZD operation of machinery was divorced from its maintenance; the machinery was assigned to plant production units (giving rise within cooperatives to separate mechanized field groups, in which, of course, manual laborers formed a majority) and independent organizational units--workshops were gradually built for repair of machinery.

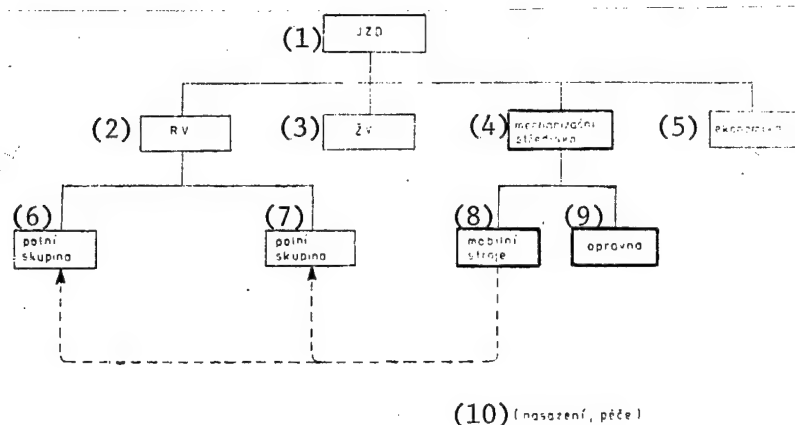


Figure 2. Management of Machinery in JZD Via the Mechanization Center
Key:

- | | |
|-------------------------|----------------------------|
| 1. JZD | 6. Field group |
| 2. Plant production | 7. Field group |
| 3. Animal production | 8. Mobile machinery |
| 4. Mechanization center | 9. Repair shop |
| 5. Economy | 10. Operation, maintenance |

Separation of machinery operation from its technical maintenance can today be termed as an undesirable deformation. Responsibility for organizing machinery operation was transferred to JZD agronomists or directly to foremen of field groups. The multistage system of technical maintenance was abandoned and a switch was made to an emergency (unplanned) system of repairing machinery, either by the operators or by the workshop repairman. There was a fast turnover in machinery operators. As the accounting system of JZD was not oriented toward mechanization, monitoring of indicators of its technical condition, utilization and economy of operation ceased.

In the first years after transfer of machinery from STS to JZD there occurred considerable changes in indicators characterizing the utilization of machinery: e.g., there was a decrease in annual output, a drop in operational readiness and an increase in cost of operation. These changes were higher than was anticipated. In addition to the understandable effects resulting from different orientation in activities of a primary production enterprise (objective--profitable and highest possible production) and a service enterprise (the higher the annual output and operational readiness of machinery, the lower the annual operational and per unit costs and, at fixed rates, higher profit) some undesirable subjective effects also came to the fore.

Thus, there was an immediate search for ways toward achieving improved efficiency in utilization of machinery in primary production enterprises. One of them was organizing of comprehensive mechanizer crews (KMC) and brigades (KMB) which commenced on a larger scale in 1962. From today's viewpoint, the KMC could be compared to the crew of one machine line and the KMB as predecessors of the heavy or basic mechanization centers. Their

essential feature was divorcing manual labor from mechanized labor, preference for comprehensive mechanization, stabilization of turnover in machinery operators, but also increased responsibility of tractor and machinery operators for any performed operations. As was the case in the preceding instance, this solution also found its example in the USSR. KMC were formed within the framework of mechanized field groups as well as in the framework of mechanization centers. The designation KMB was applied either to a new unit formed in plant production that was allocated machinery from (mechanized) field groups, or the former mechanization centers.

Development of Mechanization Leads to More Complex Organizational Structures

As could be expected, development of mechanization in agricultural production did not come to a standstill. The seventies marked achievement of comprehensive mechanization of the entire operational process in all key sectors of agricultural production. That means that today manual labor in most sectors is a mere supplement. Increases in the size of the JZD also led to more complex organizational structures.

In the first place, the production unit combines plant and animal production, the technical services unit shows more internally diversified mechanization, a drying plant would be added, a unit for the production of shaped fodders, eventually a construction group, etc. The structure is supplemented by investment, economic and other units (Fig. 3). In essence, it is an analogy of Fig. 2 under more complex production and economic conditions. In combining operation and technical maintenance of machinery the machinery functions essentially as a service.

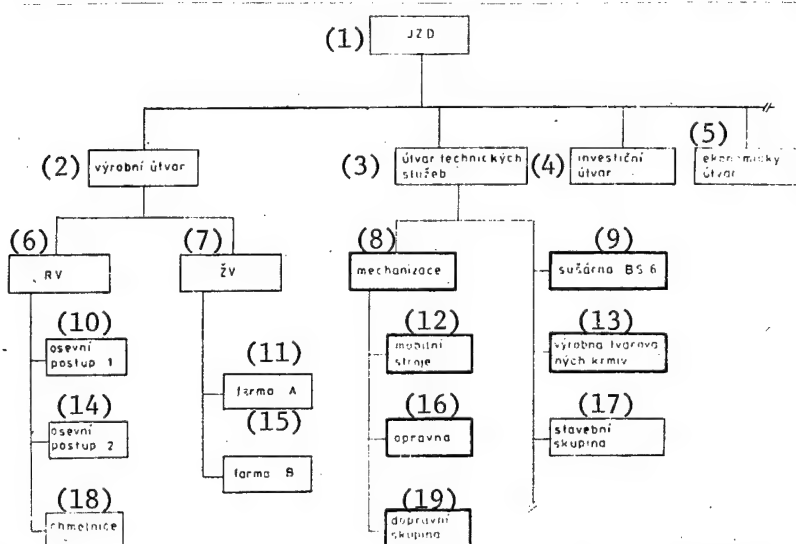


Figure 3. Incorporation of Mechanization Into the Technical Services Unit
Key:

- | | |
|----------------------------|-----------------------------------|
| 1. JZD | 11. Farm A |
| 2. Production unit | 12. Mobile machinery |
| 3. Technical services unit | 13. Shaped fodder production shop |
| 4. Investment unit | 14. Sowing process 2 |
| 5. Economic unit | 15. Farm B |
| 6. Plant production | 16. Repair shop |
| 7. Animal production | 17. Construction group |
| 8. Mechanization | 18. Hopfield |
| 9. Drying plant | 19. Transportation group |
| 10. Sowing process 1 | |

The second structure combines under a single management production proper and mobile machinery divided into groups on the basis of the sectorial principle. Utilization of machinery is under the jurisdiction of the head of the production unit, maintenance is delegated to the technical services unit (Fig. 4). Some agricultural enterprises went even farther and also included automotive transportation in technical services. This structure essentially is conducive to a situation routinely encountered in establishment of KMB.

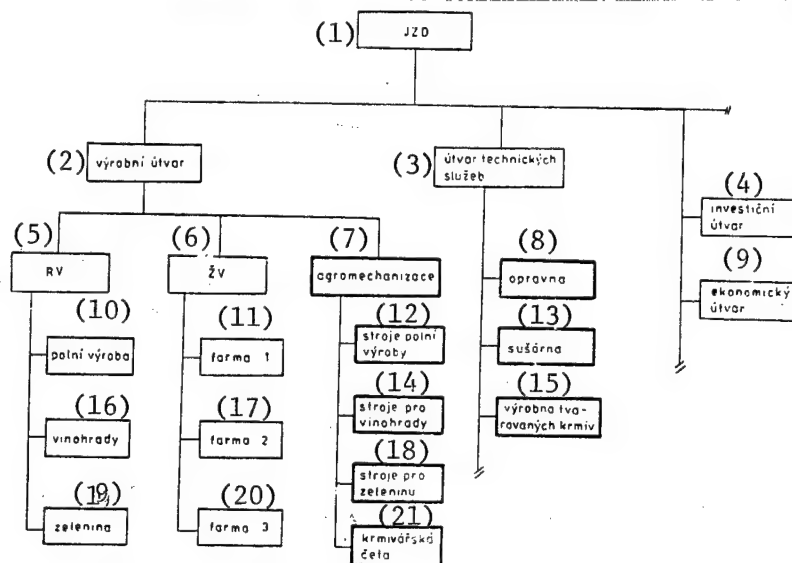


Figure 4. Organizational Structure When Machinery Operation Is Under the Jurisdiction of the Production Unit and Technical Maintenance Is Incorporated Into the Technical Services Unit

Key:

- | | |
|----------------------------|------------------------------------|
| 1. JZD | 12. Field production machinery |
| 2. Production unit | 13. Drying plant |
| 3. Technical services unit | 14. Vineyard machinery |
| 4. Investment unit | 15. Shaped fodder production plant |
| 5. Plant production | 16. Vineyards |
| 6. Animal production | 17. Farm 2 |
| 7. Agromechanization | 18. Produce machinery |
| 8. Repair shop | 19. Produce |
| 9. Economic unit | 20. Farm 3 |
| 10. Field production | 21. Fodder crew |
| 11. Farm 1 | |

Over the past several years a very interesting organizational structure was proposed at several JZD, a structure which is based on the premise that plant production bereft of workers (i.e., fully mechanized) cannot survive as an organizational unit without machinery and operators; the same applies to animal production without a fodder crew, shaped fodder production plant, drying plant and storage facilities for fodder and litter. All these activities which are contingent on and which actually constitute

internal production have thus been brought together into a single organizational unit (Fig. 5). The designation of the unit was also changed, as its mission is investment activity, to technical development unit-- which better characterizes its orientation.

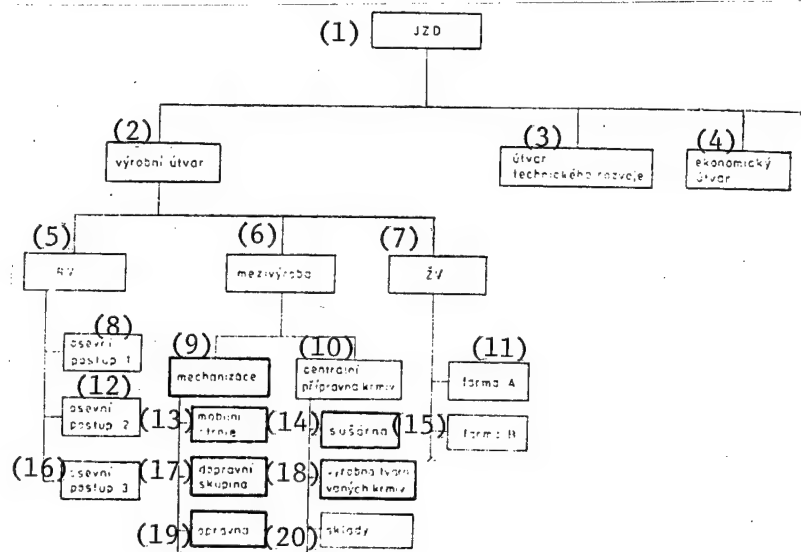


Figure 5. Organizational Incorporation of Mechanization Directly Into Production Key:

- | | |
|-------------------------------------|------------------------------------|
| 1. JZD | 11. Farm A |
| 2. Production unit | 12. Sowing process 2 |
| 3. Technical development unit | 13. Mobile machinery |
| 4. Economic unit | 14. Drying plant |
| 5. Plant production | 15. Farm B |
| 6. Intermediate production | 16. Sowing process 3 |
| 7. Animal production | 17. Transportation group |
| 8. Sowing process 1 | 18. Shaped fodder production plant |
| 9. Mechanization | 19. Repair shop |
| 10. Central fodder-processing plant | 20. Storage facilities |

[Apr 82 pp 166-170]

[Text] Development of organizational incorporation of machinery at state farms was somewhat different from the very start of collectivization. For the most part, an independent mechanization unit was established at least at the farm level, with central workshops at large farm level. In some cases some selected machinery was also incorporated at enterprise level. One of the organizational structures usually encountered in the case of an independent state farm with a territorial form of management is shown in Fig. 6. In a two-tier arrangement, machinery and its management is divided among several technicians; of course, any other type of arrangement would be rather difficult to implement at this level of technical backup of management.

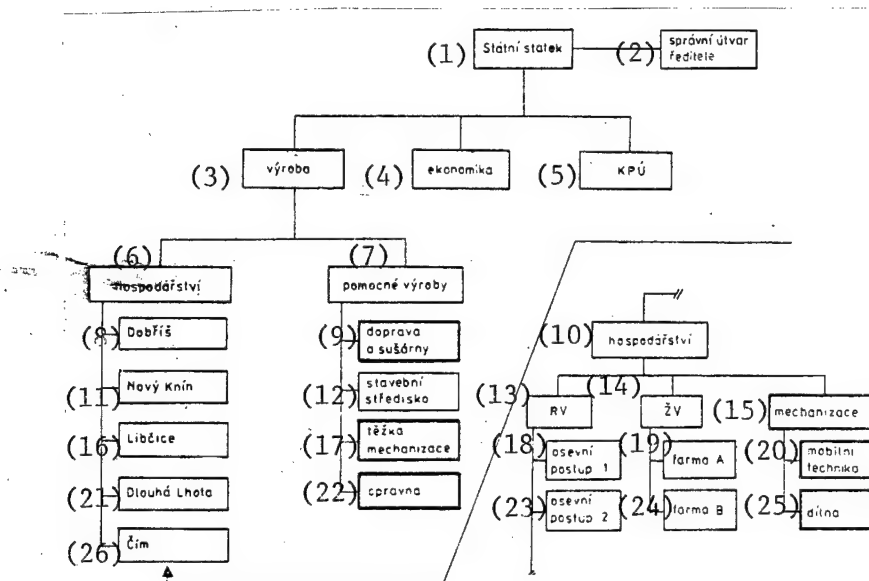


Figure 6. Organizational Structure Customary for Independent State Farms With a Territorial Form of Management

Key:

- | | |
|---|-------------------------|
| 1. State farm | 14. Animal production |
| 2. Manager's administrative unit | 15. Mechanization |
| 3. Production | 16. Libčice |
| 4. Economy | 17. Heavy mechanization |
| 5. KPU [Regional Agricultural Administration] | 18. Sowing process 1 |
| 6. Farming units | 19. Farm A |
| 7. Auxiliary production | 20. Mobile machinery |
| 8. Dobříš | 21. Dlouha Lhota |
| 9. Transportation & drying plants | 22. Repair shop |
| 10. Farming unit | 23. Sowing process 2 |
| 11. Novy Knin | 24. Farm B |
| 12. Construction center | 25. Workshop |
| 13. Plant production | 26. Cim |

Different forms of incorporation of machinery are encountered in the case of sectorial enterprises of state farms. In view of their varying size (35,000 to 85,000 hectares of agricultural land) and other specific conditions, it is understandable that practically every one of them uses a different variant. Sectorial enterprises, with only one exception, until recently were under territorial or branch management with a three-tier organization (enterprise--branch plant--farming or operational unit).

The exception was based on application of branch management and a two-tier organization (enterprise--operation, see Fig. 7). Machinery was incorporated at the level of plant production operations (Fig. 8) with the proviso that stationary machines lines (drying plants, shaped fodder production plants, mechanized grain storage facilities) came under the jurisdiction of independent service operations. It turned out that with this organizational and, by extension, managerial structure, coupled with

the considerable size of the sectorial enterprise, the management of the enterprise had to tackle so many operational problems that it seriously interfered with or even rendered impossible attending to the requisite managerial tasks. For that reason, this organizational structure was dispensed with.

Another example approximates the organizational structure of a branch paltn (OZ) of the Karlovy Vary sectorial state farm enterprise. In the management of the branch plant, the heads of production sectors (plant production, animal production, technical services) are subordinated to the OZ manager. Jurisdiction for operational control of plant production is delegated to the chief technician's unit. The structure of animal production management resulted from the current state of construction, both in regards to concentration and distribution. Of interest is also the separation of mobile machinery from workshops and transportation (Fig. 9). At the same time, basic maintenance (maintenance and operational repair of tractors and self-propelled machinery) is carried out at the mobile technology center.

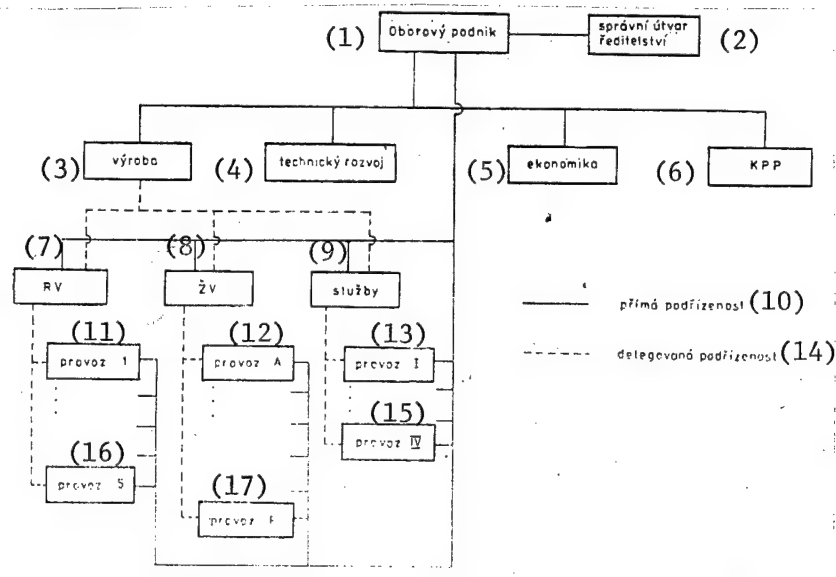


Figure 7. Two-tier Organizational Structure of a Sectorial State Farm Enterprise Using the Branch Form of Management

Key:

- | | |
|-----------------------------------|----------------------------|
| 1. Sectorial Enterprise | 10. Services |
| 2. Managerial administrative unit | 11. Operation 1 |
| 3. Production | 12. Operation A |
| 4. Technical development | 13. Operation I |
| 5. Economy | 14. Delegated jurisdiction |
| 6. KPP [expansion unknown] | 15. Operation IV |
| 7. Plant production | 16. Operation 5 |
| 8. Animal production | 17. Operation F |
| 9. Services | |

Of course, during periods of key operations on the fields the basic automotive equipment of the transportation center are assigned to the machine lines of the mobile machinery center; however, for technical maintenance it must return to the central workshops. That sometimes interferes with organization of work and limits the attainable output of harvesting machinery.

New Technology Calls for More Efficient Utilization

The rapidly progressing process of concentration, cooperation and specialization, originally outlined in 1971, abetted by a constant exodus of workers from agriculture and introduction of a new category of high-performance machinery, designated as second generation machinery, led to a new approach to incorporation of machinery into the organizational structure of agricultural enterprises.

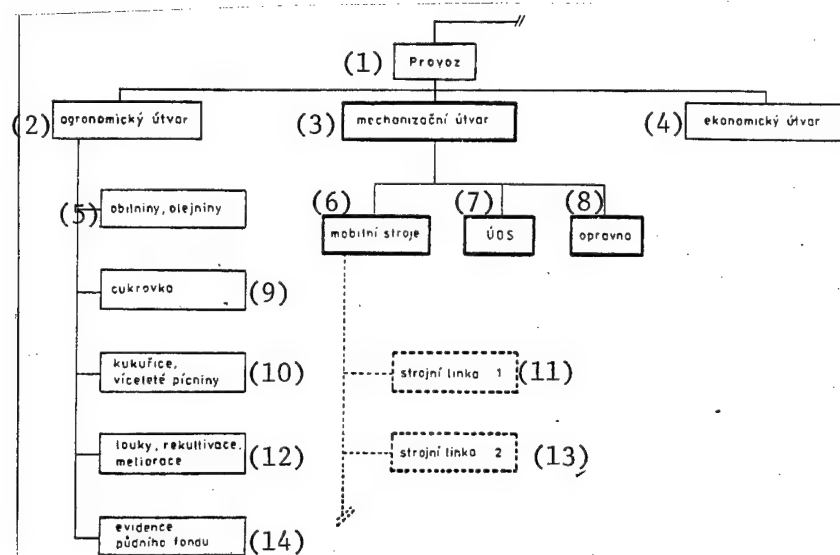


Figure 8. Incorporation of Machinery at Plant Production Operations Level in Sectoral State Farm Enterprises With a Two-tier Management

Key:

- | | |
|-------------------------------|---|
| 1. Operation | 8. Repair shop |
| 2. Agronomical unit | 9. Sugar beet |
| 3. Mechanization unit | 10. Corn, perennial fodders |
| 4. Economic unit | 11. Machine line 1 |
| 5. Cereals, oleaginous plants | 12. Pastures, crop rotation, soil improvement |
| 6. Mobile machinery | 13. Machine line 2 |
| 7. UOS [expansion unknown] | 14. Land resources accounting |

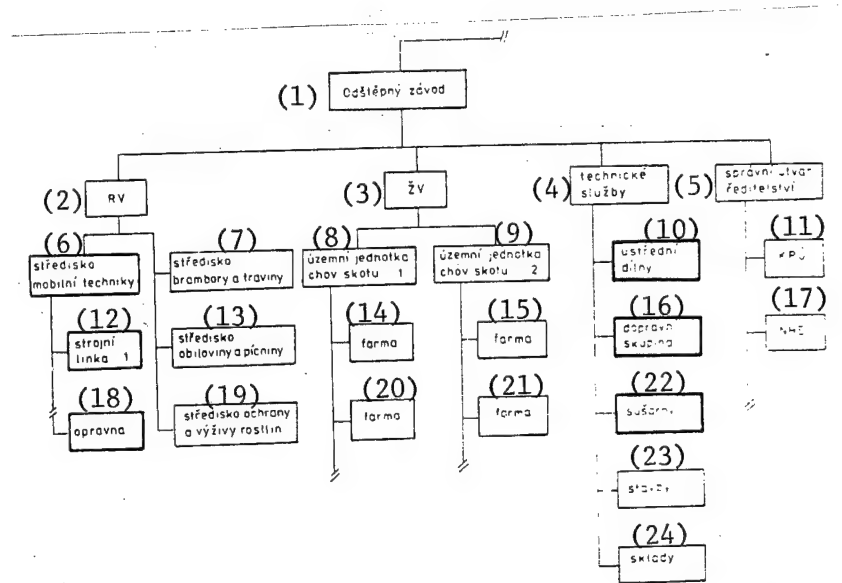


Figure 9. Organizational Structure of a Branch Plant of the Karlovy Vary Sectorial State Farm Enterprise

Key:

- | | |
|-----------------------------------|---|
| 1. Branch plant | 13. Cereals and fodders center |
| 2. Plant production | 14. Farm |
| 3. Animal production | 15. Farm |
| 4. Technical services | 16. Transportation group |
| 5. Managerial administrative unit | 17. NHE [expansion unknown] |
| 6. Mobile machinery center | 18. Repair shop |
| 7. Potatoes and grasses center | 19. Plant protection & nourishment center |
| 8. Territ. cattle keeping unit 1 | 20. Farm |
| 9. Territ. cattle keeping unit 2 | 21. Farm |
| 10. Central workshops | 22. Drying plants |
| 11. KPU | 23. Construction |
| 12. Machine line 1 | 24. Storage facilities |

Table 3. Anticipated Development of Power Machinery Resources in CSSR Agriculture

Type	Expected number in year [in 1,000 units]			
	1975	1980	1985	1990
Tractors	145	138	100-115	80-100
of which 100 kW and more	1.5	10	25-30	35-40
Trucks	28	35	40-45	45-50
of which carrying capacity 8 t and more	3.5	45	15-20	30-35
Self-propelled machinery	20	30	35-40	40-45

A significant feature of the present and of the coming period is growth in types and numbers of machinery of the second generation which profoundly changes the entire composition of inventories of machinery (Tab 3). The economic aspects attendant on introduction of second-generation machinery into agricultural enterprises can be expressed by:

--An increase in rated prices (e.g., price per kw of installed output of tractors or price per m of machine engagement);

--increase in annual operating expenses.

The requisite level of indicators of utilization of this machinery then be derived from comparing the relation between annual cost per worker (this includes remuneration for work and other expenses connected with providing for his security--social security, subsidized meals, housing allowance, etc.) and operational costs for the mechanized device for the year. The closer this ratio, the lower can be annual output of the machine and vice versa.

Table 4. Comparison of Selected Indicators of Pairs of Machinery of the Same Type, but Differing Generation

Indicator	Unit	Type of machine (generation)			
		harvesting cutter		sugar beet cutter	
		1st G	2d G	1st G	2d G
Make (type)	-	SKPU-220	SPS-35	3-OCX A	6-ORCS
Rated price	%	100	420	100	350
Output per hour	%	100 (mow)	210	100 (cut)	260
Annual costs per machine in relation to annual cost per worker*	%	100	450	70	220

* Annual cost per worker always equal to 100.

Table 4 clearly shows that high annual output must be achieved for machinery of the second generation used as an example. The prerequisites for continuous attainment of high output throughout their service life can be created by suitable organization of agricultural land resources, the size of the serviced area, use in multiple shifts, suitable form of upkeep and maintenance precluding defects and warranting attainment of acceptable indicators of reliability. All this can be implemented by corresponding organizational incorporation of machinery and the attendant form of management.

Establishment of Centers of Heavy Mechanization at Sectorial State Farm Enterprises

The first to verify the veracity of these deductions was the Sectorial State Farm Enterprise in Tachov which established in 1971 in its OZ (following incorporation of K-700 towing tractors, E-301 self-propelled harvesting balers and E-280 cutters) centers of heavy mechanization.

At that time there were 10 OZ for primary agricultural production, with an organizational structure approximated in Figure 10. It is obvious that the center of heavy mechanization (STM) was placed at the same level as the farms and was under the direct jurisdiction of the OZ manager.

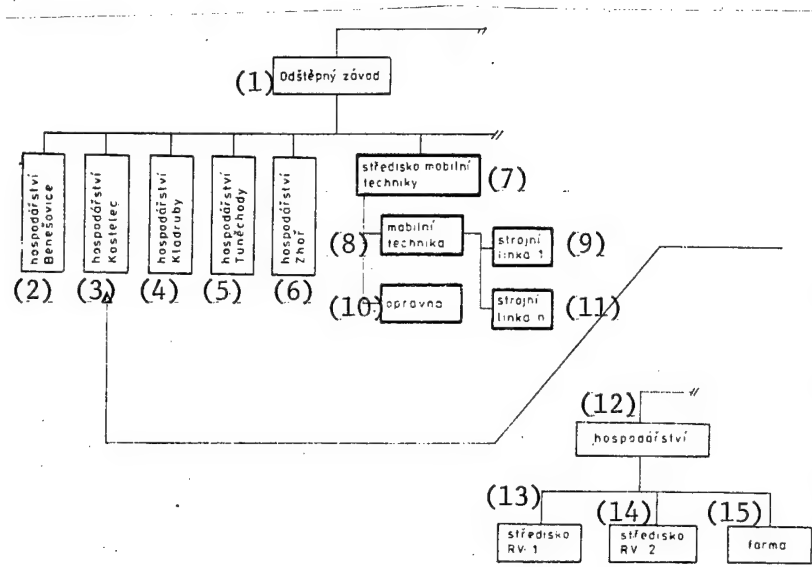


Figure 10. Organizational Structure of the OZ of the Sectorial State Farm Enterprise in Tachov (1971)

Key:

- | | |
|----------------------------|-------------------------------|
| 1. Branch | 9. Machine line 1 |
| 2. Benesovice farm | 10. Repair shop |
| 3. Kostelec farm | 11. Machine line n |
| 4. Kladruba farm | 12. Farm |
| 5. Tuněchody farm | 13. Plant production center 1 |
| 6. Zhoř farm | 14. Plant production center 2 |
| 7. Mobile machinery center | 15. Breeding farm |
| 8. Mobile machinery | |

Centers of heavy mechanization were established as independent organizational units so that the new, very expensive, high-performance machinery calling for qualified operators would deliver the required economic effect. Its utilization led in every case to improved labor productivity.

STM were capable of carrying out the major share of operations primarily in tillage of soil, fertilization by farm manure, harvesting of produce, always in accordance with uniform technological guidelines in optimum agro-technical deadlines. Their task was basic maintenance of machinery within the possibilities determined by the capacity of the repair shop, to include machinery that stayed at farms. STM were established for areas under the jurisdiction of OZ, i.e., on acreages of 5,000-7,000 hectares of agricultural land, at an intensity ranging between Kcs 10,000-12,000 per hectare.

As can be deduced from the above, some simpler and cheaper machinery at the OZ of the Tachov sectorial state farm enterprise remained distributed among its farms. These included primarily machinery meeting the daily requirements of animal production.

One of the key principles in the establishment of STM was prevention of duplication of machinery capacity at organizational units at OZ. Therefore, as the number of machinery in STM kept increasing, the number of machinery for performance of identical operations left temporarily at farms was decreased under the direct control of the sectorial enterprise management.

The centers of heavy mechanization functioned throughout the entire area of the OZ, for all practical purposes, as a service for individual farms. Utilization of their machinery was always monitored at weekly consultations with the OZ manager and was subject to strict control. Thus, e.g., farms were obliged to leave selected areas for servicing by higher-performance machinery of the STS. On the other hand, STM were obligated to meet the contracted operations in accordance with obligatory production processes and in stipulated deadlines, with the highest quality and at the lowest cost possible. Bonuses for STM personnel were oriented toward completion of tasks in the specified extent and deadlines, quality of work and lowering of operational costs. It turned out, however, that the system of bonuses was inadequately tied in with increasing the intensity of production.

During reorganization carried out in the sectorial state farm enterprise in Tachov in 1975, which had as its objective introduction of branch management, specialized OZ for plant production and for animal production were established. The former centers of heavy mechanization were put at the level of mechanized operations. This, more than any other time, points up emphasis on centralization in management of operational utilization of machinery and care for its reliability (Fig. 11).

Cooperative Implementation of Mechanization Efforts

Experiences gained at sectorial state farm enterprises also became utilized in districts where agricultural production is provided by JZD. For example, in the Vyskov District, where at the outset of the Fifth Five-Year Plan there were 67 agricultural enterprises, production was concentrated in the course of the five-year plan into 20 enterprises which were formed into 6 cooperational groupings in two basic cooperative districts. Six centers of heavy mechanization, run by cooperative boards, were gradually established in 1974 at the level of six cooperative groupings. STM activities are organized at the level of a member enterprise--operator. In 3 years of their existence, the centers of heavy mechanization owned machinery amounting to 14 percent of the overall value in agricultural primary production.

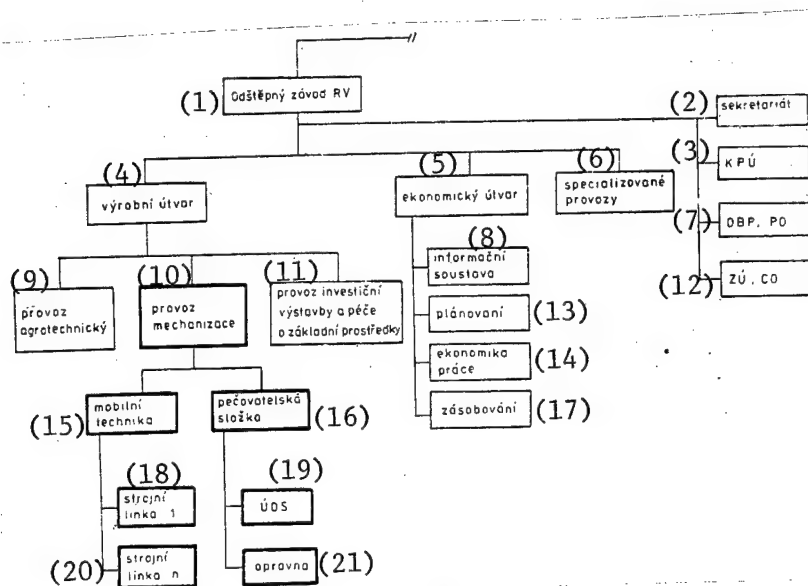


Figure 11. Incorporation of Mechanization in the Branch System of Management at the Tachov Sectorial State Farm Enterprise After 1975

Key:

- | | |
|---|--|
| 1. Branch plant for plant production | 12. ZU, CO [expansion unknown] |
| 2. Secretariate | 13. Planning |
| 3. KPU | 14. Labor economics |
| 4. Production unit | 15. Mobile machinery |
| 5. Economic unit | 16. Maintenance component |
| 6. Specialized operations | 17. Logistics |
| 7. OBP, PO [expansion unknown] | 18. Machine line 1 |
| 8. Information system | 19. UOS [annual maintenance and health care station] |
| 9. Agrotechnical operations | 20. Machine line n |
| 10. Mechanized operations | 21. Repair shop |
| 11. Investment construction and long-term assets maintenance operations | |

For the coming period, the principle was promulgated that at the outset of the Seventh Five-Year Plan STM in cooperative groupings will become the basic link for carrying out key operations in plant production. A list was drawn up of machinery that will be allocated principally to STM. An upkeep and maintenance station will be established at each STM. Additionally came promulgation of measures applying to the sphere of personnel, economy and management, all ties in to STS operations. It is obvious that at the outset of STM operations much machinery will remain incorporated in the organizational structure of member enterprises; however, this will be constantly and rapidly narrowing down. A contributory development will be the fact that some cooperative groupings merged into a single enterprise.

The favorable experience made with utilization of machinery concentrated in specific units became reflected in the instructions of the CSR Ministry of Agriculture and Food regarding management, organization and utilization of mechanized means in concentration and specialization of agricultural production of 10 April 1980. These instructions also introduce a uniform terminology and speak of:

--Centers of basic mechanization (SZM) where integrated machine lines of high reliability will be concentrated and industrial forms of labor organization will be applied in management;

--centers of supplementary mechanization which will serve to carry out operations for which machine lines cannot be used due to the extent or type of mechanization, further for meeting the needs of animal production, etc.

The term "centers of basic mechanization" fully corresponds to the formerly used designation "centers of heavy mechanization."

Analysis of Machinery Incorporation Into Organizational Structures

An analysis of the mentioned organizational structures that essentially exhaust the types of incorporation of machinery in Czechoslovak agriculture leads to the following basic findings:

1. Mechanized operations in agriculture appear in the form of an either supraenterprise or intraenterprise (intraplant) service, or are incorporated directly into primary production units. It is possible for several forms of incorporation to be used within the same enterprise.
2. The process of shifting mechanized operations from production units to service units and vice versa is continuous, because technical development progresses faster than changes in the size or production level of agricultural enterprises.
3. Conduct of mechanized operations is, as a rule, combined within the same organizational entity with maintenance of reliable operation of machinery. Nevertheless there are cases where maintenance is partially or completely under the jurisdiction of another organizational entity.
4. Choice of organizational incorporation (primary production or services) is to a great extent affected primarily by economic and performance indicators, both in periods of partial or comprehensive mechanization.
5. Centralized management of machinery utilization is deepening (utilization to be interpreted as including operational use as well as reliability of maintenance), which, however, does not preclude suitable distribution of machinery among more than one mechanization station.

A critical stance must be assumed in regard to opinions and solutions offered when care for machinery is divorced from management of its operational use. Preventive efforts (preventing the need for repairs) can succeed only when

there is a direct contact between operators and personnel of the maintenance and repair center, reinforced by their mutual interest in creating the prerequisites for high intensity of production. Separation of maintenance usually results in:

--Higher cost of machinery repairs and, sometimes, even higher cost of fuels (with an undesirable decrease in the cost of maintenance) as machinery operators lose interest in its technical condition;

--higher total consumption of machine technology (oversize inventory) as a result of production units insuring themselves against the possibility that repair services will not be able to maintain machines in operational condition.

Of questionable advantage would be direct control of operational utilization of machinery and its maintenance by the head of the production unit (farm or operation). There immediately arises the question as to what extent is this head qualified to plan and organize operation of machinery lines, to determine the moment most suitable for turning over the machine for maintenance or diagnostic checkup, to assess the power efficiency in operation of individual combinations, and other things.

The question of whether it might not be advisable to incorporate machinery as a supraenterprise service has its justification particularly now that the average acreage of an agricultural enterprise is approximately 2,500 hectares of agricultural land and the second-generation machinery being introduced now calls for an acreage of approximately 5,000-7,000 hectares if it is to be utilized economically in operation at average intensity of production. It follows that incorporation of machinery as a supraenterprise service in agricultural enterprises of average and smaller size is feasible and in a number of cases advisable, of course, always fully tied to care and maintenance and giving consideration to the effects of intensity of production.

The framework into which machinery should be incorporated ought to be, in view of its price and output, a cooperative grouping, a territorial entity, or even the whole district. At the same time, incentives must be provided for the service unit to develop sufficient interest in production results, because its management could adopt from the viewpoint of an enterprise the self-serving tendency to meet the plan by attaining maximum annual output without taking into consideration the requisite agrotechnical deadlines.

Variable production, economic and other conditions in economic enterprises, have so far formed an obstacle to stereotyped introduction of a uniform organizational structure. However, the significance of the process of mechanization and the importance of machinery in agricultural production permit the conclusion that the organizational unit including it (mechanized operations) might best be divided into a mobile machinery center (including machine lines and the fodder crew), a maintenance center (UOS, repair shop, spare parts storage and maintenance of animal production machinery), a transportation center (cargo and personnel transport), and supplementary components (procurement, etc.).

The main features of such an arrangement are:

- Direct combination of operational utilization and maintenance;
- potential for forming machine lines (by direct incorporation of all means of transportation);
- centralized management of utilization of machinery and, if under the jurisdiction of the production manager, a direct stake in achieving high economic results.

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CSO: 2400/238

CZECHOSLOVAKIA

BRIEFS

COOPERATION WITH USSR--During the current 5-year plan, the USSR will be participating in the construction of more than 30 industrial enterprises, facilities and premises in the CSSR. In consequence, the worth of USSR's deliveries of installations will roughly amount to R1 billion. [Prague RUDE PRAVO in Czech 24 May 82 p 2 AU]

CRIME IN SLOVAKIA--Last year 42,963 persons were prosecuted for felonies in Slovakia and 31,357 were indicted. The number of felonies thus increased 0.6 percent, the number of property offences 0.4 percent. Economic crime has decreased 1.3 percent; of the 27,000 persons sentenced, 15.9 percent had committed economic crimes. [Prague RUDE PRAVO in Czech 20 May 82 p 2 AU]

INFANT MORTALITY RECEDING--In 1981 a total of 3,994 babies died in the CSSR, which is 12.8 percent less than in 1980, and 17.2 percent less than in 1979. The number of newly born babies' deaths was 16.7 percent lower than in 1979. Last year there were 16.7 infants' deaths per 1,000 live births. [Prague RUDE PRAVO in Czech 24 May 82 p 2 AU]

MACHINERY FROM USSR--Within the framework of the mutual goods exchange between the USSR's Traktoroeksport Enterprise and the CSSR's Motokov Foreign Trade Enterprise, last year the USSR exported to the CSSR 750 tractors, road-building and construction machinery worth R10 million, and agricultural machinery worth more than R16 million. This year's contracts include USSR deliveries of 580 DT-75 caterpillar tractors, 14 Heaby Kirovets K-700A wheeled tractors and 50 Khersonets-200 corn-harvesting combines. [Prague PRACE in Czech 20 May 82 p 3 AU]

CATTLE TURNOVER DYNAMICS--In 1981 the farms in the Czech Socialist Republic produced 393.62 kg meat per milch cow, compared with 402.47 kg in 1980; and 3,102.6 liters of milk compared with 3,117.30 in 1980. Grain fodder consumption per 1 liter of milk was 0.25 kg in 1981, and 0.27 kg in 1980. Grain fodder consumption per 1 kg weight increase in cattle raised for meat amounted to 2.40 kg in 1981, and 2.57 kg in 1980. Meat production per hectare of agricultural land amounted to 120.06 kg in 1981, and 121.54 kg in 1980. Milk production per hectare of agricultural land amounted to 946.29 liters in 1981, and 941.42 liters in 1980. In 1981 there were 120.06, and in 1981 121.54 milch cows per hectare of agricultural land. The gross natality of milch cows dropped from 105.98 percent in 1980 to 104.98 percent in 1981, which signified a reduction of production capacity of cattle turnover by 4,472.59 tons of meat. [Prague ZEMEDEL'SKE NOVINY in Czech 20 May 82 p 3 AU]

TRAIN, BUS CHANGES--According to Vladimir Blazek, CSSR minister of transport, in the first quarter of 1982 the Czechoslovak automobile transport had 566.7 million passengers, which is 7.7 million less than last year during the same period, and the CSSR railroad had 104.7 million passengers, that is 4.2 million more than last year. The airline limitations have also led to a drop in passenger figures. Railroad freight traffic has registered the same drop as road transport. The Trakia train from Leipzig to Varna will cease to operate from 23 May; trains No 1471/1470 from Leipzig to Bucharest and back, and No 1331/1330 from Katowice to Budapest and back, will start operating at the same time. The Praga train between Moscow and Prague will operate from 1 December 1982 to 1 April 1983 only three times a week: from Moscow on Wednesdays, Fridays and Sundays; and from Prague on Tuesdays, Fridays and Sundays in the period from 3 December 1982 to 3 April 1983. In July and August trains Nos 1108/1109 between Moscow and Prague will operate only once a week. By joining the trains Brnensky Drak and Krusnohor, a direct connection between Moravia and Karlovy Vary was established. Trains No 623/622 between Prague and Kosice will operate the year round. New trains 500/501 will operate between Kosice and Bratislava, Train No 172 between Bratislava and Brno was changed into train No 872. To make up for canceled airline flights, the departure time of train No 749 from Prague to Zvolen has been adjusted. The budget for superhighway construction has been cut down by Kcs162 million this year. [Bratislava PRAVDA in Slovak 22 May 82 p 2 AU]

CSO: 2400/277

COMBINE DIRECTOR RESPONDS TO CRITICISM OF CONSTRUCTION COLLECTIVES

Dresden SAECHSISCHE ZEITUNG in German 13 May 82 p 3

[Joerg Marschner interview with Hans Seidel, combine director, VEB Housing Construction Combine, Dresden: How ~~Do We~~ Overcome the Hectic Situation in Housing Construction; Criticism of Construction Collectives--What Does the Combine Director Say?"]

[Text] [Question]: During the past 4 weeks, more construction workers than usual have written to our newspaper--in a very thoughtful and constructive manner, striving for greater efficiency in housing construction, and therefore quite critical. Their targets were too much downtime, too many interruptions, too much hectic activity especially at the end of each quarter and month, which greatly impairs productivity. What do you think of these criticisms?

[Answer]: I think they are fully justified. The writers have put their finger on specific weak points and have come up with remedies.

[Question]: Isn't such criticism annoying to the combine director?

[Answer]: It isn't exactly pleasant, but it is very useful. Especially so because it can contribute to speeding up the improvement process. I can tell you that during the past few weeks we have, in concert with the SED district leadership working group, investigated all aspects of our activity with even greater critical attention. This analysis resulted in a set of guidelines which will provide decided improvements and whose implementation we will discuss next weekend at a party meeting of our combine.

[Question]: In your opinion, what will be the focal point of the necessary changes?

[Answer]: Even though the problem is quite complex, it can perhaps be made clear by expressing it in the following requirement: we must make it quite clear politically and ideologically at all levels of management that the battle for further increased effectiveness and greater economy in housing construction can be successful only by implementing truly industrial time phasing and assembly line production.

[Question]: But we have had time-phased production for many years; why should this constitute such a problem?

[Answer]: The salient issue is a generally improved, technologically oriented preparation of time phase and assembly line production--ranging from the preparation of the building sites, territorial allocation of sheet metal products to building sites, to excavation work and final delivery. The district manager working group in which we participated has made a careful study of scheduling procedures and has come to the conclusion that they will have to undergo basic changes in order to become more effective. What we must do in general terms--and we have started to do it--is to increase the capacity for the initial work phases, because it was here, in insufficient preparations for excavation, in problems with access road construction and in the foundations, that the main problem areas arose which frequently led to disturbances in the assembly phases, to target date delays and finally to hectic activity in the interior finishing phase and final delivery of the apartments.

We appreciate the great efforts made by the construction workers of the traffic and excavation combine, who last March and April proved their determination to stick to the deadlines in the excavation program. And we agree with the directorate of the traffic and excavation combine that this activity must also be managed like a scheduled operation and that firm capability resources must be available for it.

In addition we must make certain that technological work must take place to a greater extent on the building site itself (up to now, we have had no technologists at all at the building sites), that building material deliveries proceed in a phase-oriented manner despite all difficulties, and that cooperative efforts within the combine are regulated in such a way that they provide optimum support to the flow of scheduling.

[Question]: All that sounds very technical and administrative. Is there more to it than that?

[Answer]: What is much more important is an aggressive attitude. As interior builder comrade Drechsel of Phase 4 correctly stated in his letter to SAECHSISCHE ZEITUNG, everyone must accept his own responsibility--every collective, every manager at his own level. Considerable differences still exist among individual phases and their managements. Time phase 3 of Dresden housing construction for instance concentrated its main efforts on its preparatory phases during 1981. This resulted in gaining lead time for the erection phase, which thereby managed to complete 15 percent more apartments than any other crane group of Phase 4. There is still too much of a tendency in the Phase 4 management to regard the project schedule as being the most important issue. But the East Saxony housing construction groups have shown for some time that it is possible to complete apartments in monthly or even 10-day increments. We can see from this that confusion is being gradually overcome.

[Question]: In your capacity as combine director, you may never or very rarely, be able to make your influence felt at the building sites themselves. What is your perception of your own position as a link in the chain?

[Answer]: I see it in working with the managers here in the combine headquarters and with the project managers. Also, in exerting still more pressure to make them realize their responsibilities and to comply with requirements as expected by the collectives. We must make pioneer efforts specifically in the interest of a truly industrially organized time phase production, as for instance by subordinating important functions of materials production directly to the housing construction projects, because the latter are the only ones able to manage them effectively. That is only one example of how we must create uninterrupted, efficiently functioning production chains. But for the project managers this means taking on greater responsibility. Much ideological work remains to be done in that respect.

The same thing applies to the strictness with which we in the combine monitor the comparative accomplishments of the various time phases, in which we enforce competitiveness for highest quality--which was suggested by Phase 3 in Goerlitz--and in which we closely coordinate the results with Karl-Marx-Stadt and Gera. One thing is clear: adherence to the program schedule is not the deciding factor. The measure of the success of my supervision and that of my managers is the delivery of apartments at every building site, every month--in short, a stabilized attainment of the objective.

[Question]: Thank you for the interview.

9273

CSO: 2300/282

CRITICAL POINTS OF POLISH FOREIGN TRADE DISCUSSED

Impact of Trade Turnover Decline on Foreign Trade

Warsaw HANDEL ZAGRANICZNY in Polish No. 1-2, 1982 pp 5-6

[Editor's Note] [Text] /Under this common title we are publishing several articles. The authors are scientific workers at the Institute of Trends and Prices. The articles were prepared as a part of the work on a report about the state of Polish foreign trade in 1981. Their common characteristic is that they point out the principal internal and external contingencies of our foreign exchange, and at the same time present a thesis that the extrication of the Polish economy from the situation of crisis is dependent not as much on foreign trade itself (although it should be accomplished with its active participation) as on appropriate structural and systemic changes./ [in boldface]

[Article by Andrzej Olechowski]

[Text] The year 1981 was the third consecutive year of decline in national income. The principal reason of that decline lies in the policy forced by the payment situation, designed to balance the foreign trade turnover by curtailing imports. At the foundation of that policy, whose aim is to discharge the huge indebtedness of the country abroad, lay--independent of external contingencies--a faulty assumption that trade is a sector of the national economy and that it is possible to perform certain trade operations without adverse results on the remaining sectors. In reality, however, trade abroad is a sphere of economic activity and exerts powerful and difficult to correct influence on other spheres, with which it is linked by many ties. The strength and stability of these connections is particularly visible in the case of imports.

It is possible, having at the disposal [information on] a given quantity of imported goods, to predict, within a short period, and with a fair amount of precision, the size of national income. This applies particularly to supply

import (the most inelastic position in the total import [structure]). Its [supply import] dimensions depend on the natural resources, real structure of production, and technology, which are changing gradually, over longer time intervals.

The particularly rigid dependence of production on supply import [especially true in the case of production growth] is a characteristic feature of the Polish economy. There are three significant causes of this phenomenon. Firstly, there is a "systematic" lack of elasticity in the national productive apparatus; secondly, there is a high marginal tendency toward imports¹ which significantly exceeds the average tendency; and thirdly, there is a supplementary feature in supply import which fills in the structural void in our economy that has been created by underdeveloped--in relation to needs of producers of final products--domestic production of semi-finished and raw products.

This structural feature of higher import absorptivity in our economy caused the attempts to significantly limit it by cuts in imports, without restructuring production, which led to the resulting decline in the increase of production tempo, and then to the absolute decline in the value of production.² Analysis of the relationship between industrial production and imports, conducted by the Institute of Trends and Prices [IKiC] and based on quarterly data from the years 1975-1981, has shown a gradual weakening of the strong interdependence between these two factors, followed by the complete extinction of any relationship during the period 1978-1979 (as a result of using up the reserves), and then a reappearance during 1980-1981, with the initially observed strength.³

A good illustration of the strength of that interdependence is in the following calculations: at the present import absorptivity of final production (about 23 percent), an import increase by 1 zloty should result, on the average, in approximately a 4.3 zloty increase in that production. It is possible to present in a similar manner the impact of imports (and by the same token of exports, which determine imports as a result of the exhaustion of credit availability) on the supply of goods in the consumer market. Assuming that the population in Poland consumes 43 percent of final production, an increase of exports by 1 zloty should produce, on the average, an increase in the supply of market goods by 1.8 zloty. This relationship will vary depending on whether the exported goods are consumable or for investment. In the first case the supply increase in the market would amount to .8 zloty, in the second, 3.2 zloty. This computation is the best illustration of the general truth that foreign trade is the cheapest method of converting that which we have at our disposal in the country to that which we want to ultimately consume.⁴

We quote these proportions and numbers in order to demonstrate the determinative influence of foreign trade on the economic development of the country. In principle, the awareness of that influence is universal and unquestionable. Nevertheless, this [awareness] continuously fails to find support in our economic practices, which has been demonstrated by both political-economic declarations and the variants of plans proposed by the Planning Commission.

With regard to the earlier [political-economic declarations], a view that is founded on a lack of appreciation of the import barriers and on the overestimation of influence of domestic factors is being expressed more and more frequently. That view, while formulated to a great degree because of political expedience, is only partially correct. Viz, a limiting factor of productive capacity, similar in degree to /the limiting factor of/ imports is energy and its resource base; on the other hand, other factors, such as low productivity and the disorganization of production are undoubtedly significant obstacles, yet they cannot be eliminated without an increase in imports. Similarly, in light of foreign restrictions for example, the assertion that an absence of imports will create other ways of economic development for Poland is only partially true. These ways exist in potential and may become a necessity. However, they are not an alternative for the development derived from the advantages flowing from the international division of labor: they are significantly less effective and prevent attainment of certain goals.

The results of the underestimating the strength and stability of the relationship between production and imports, and of overestimating the possibility of substituting imports by domestic production has been reflected in the systematic lowering of import plans and overestimating of export plans. The variants of the Central Socio-Economic Plan [CPSG] are one of the latest examples of such practices. The levels of import assumed in those variants disallowed--according to the results of our studies--attaining the planned values in national income. We are estimating that import forecasted in the so-called "fear variant" would create a decline in produced national (brutto) income of 16.7 percent in 1982, compared with the level of 1981; a decline in the variant of "plan implementation" of 3 percent; and an increase of 1.1 percent in the "variant of optimism."

The above calculations, considering the decrease in both import absorptivity and imports, demonstrate the alarming prospect of further impoverishment of the country and indicate an absolute necessity for the preferential treatment of import and a need for finding ways to increase import to a level that would allow a halting in declining production. These actions ought to be accompanied by economic reform and by a solid lowering of the rate of exchange of the zloty (devaluation) which would force the most effective and pro-export use of import. It should be emphasized that the success of such actions depends on their simultaneous and decisive implementation. An increase of import without [economic] reform and devaluation can only lead to an increase in indebtedness and further a deepening of economic difficulties. On the other hand, [an economic] reform without an increase import and devaluation will not induce the expected enlivening of production. Finally, devaluation without reform and additional import can only bring inflation or a further deepening of imbalance.

Zloty Rate of Exchange

Warsaw HANDEL ZAGRANICZNY in Polish No 1-2, 1982 pp 6-7

[Article by Bronislaw Wojciechowski]

[Text] The preparations undertaken in 1981 for implementing economic reform have given new meaning to currency exchange rates and created an intensive discussion on the topic. As much as the role of the currency exchange rate is secondary in the orders-distribution system, since it serves the purposes of the records-clearing of accounts exclusively, its significance in the process of steering foreign trade becomes decisive. In the condition of the increased independence of enterprises, currency rates are becoming the fundamental parameter of economic accounting and a tool of influence that flows from the central level, in the managerial decisions undertaken by these enterprises, in the field of both exports and imports.

The condition [that allows] for the correct operation of currency rates as parameters of economic accounting is their uniformity in the entire sphere of foreign exchange and their direct influence on the level of domestic prices, i.e., linking these prices with the prices of the world market. Decisions in that area were already taken during the first phase of the preparatory work for economic reform. The only remaining issue for discussion were the levels of currency rates. In the first place, there was the necessity to adopt exchange rate relations for the purpose of setting the producer prices for basic raw products and other materials, both imported and domestic. A rate of 50 zloty to one U.S. dollar was the accepted exchange rate; it was arrived at from the conversion factor utilized in foreign trade during the first half of 1981 (about 45 zloty to a dollar). On that basis, new catalogues of producer prices for basic raw materials, fuels, and other materials were introduced. The prices went into effect in the beginning of 1982.

In spite [of the fact] that the new producer prices, at the exchange rate of 50 zloty to a dollar, were significantly higher than the preceding ones (in some cases by 3 to 4 times) that rate soon turned out to be inadequate, from the point of view of foreign trade needs. This is related to the second basic function of exchange rates, namely, their incentive function. The higher the price of foreign currencies, expressed in domestic currency, the stronger the financial incentives for the development of export and production, in replacement of import.

Simultaneously, high rates restrict import, assuming of course, that producers bear the full financial consequences of their activities. Likewise, the setting of currency exchange rates cannot be done in abstract, without consideration of the cost of export production. In the situation of independence of enterprises, development of export is possible only when the currency exchange rate assures the main producers of export goods that their production costs will be defrayed.

For precisely these reasons, the necessity to raise currency conversion factors which are utilized in foreign trade accounting, had already appeared in 1981.

During the first half of 1981, they stayed at 44.44 zloty to one transferable rubel in turnovers in the I payment area, and about 45 zloty to a dollar in turnovers in the II payment area. Beginning on 1 July 1981, the conversion factor for the II payment area was increased to the level of about 55 zloty to a dollar. In September of 1981, a preliminary decision was made to increase the currency exchange rates for 1982 to 55 zloty to one transferable ruble for I payment area and about 65 zloty to a dollar for the II payment area. However, even that decision turned out to be inadequate. Beginning on 1 January 1982, following a long and very controversial discussion on that subject, the currency exchange rates were set at 68 zloty to one transferable ruble and 80 zloty to a dollar, by the order of the Chairman of the Polish National Bank (Order No 7, 22 December 1981).

At the same time decisions were made simplifying, in a significant manner, the currency system of Poland. Thus, the so-called exchange rate parity of the zloty, based on the nominal parity of our [Polish] currency expressed in gold, was eliminated. By that action, the category of the foreign exchange zloty, which during the years 1958-1981 was the basic planning, statistical, and accounting unit in the foreign exchange of Poland, has ceased to exist. In addition, beginning on 1 January 1982, the separate exchange rates were eliminated. Thus, the so-called special rate with surcharge (commonly called "tourist rate"), which was utilized to collect foreign exchange from foreign tourists as well as for some other purposes, has ceased to exist. It was replaced by uniform currency exchange rates, that became mandatory both in foreign trade (in place of earlier currency conversion factors) and in tourism. Thus the postulate, long pronounced by the experts, of uniformity in the currency rates of the zloty was realized.

However, the realization of that postulate is still not completely accomplished. Besides the "black market" exchange rates, which are of marginal importance, the main (from the economic point of view) break out from the uniformity of currency exchange rates, is in producer prices for basic raw products, which are based--as we have already mentioned--on the exchange rate of 50 zloty to a dollar, a rate significantly lower than that which is presently in force. This means, that the import of basic raw materials and other materials is actually based on the 50 zloty to a dollar rate in 1982, and the remaining import from the II area, as well as the entire export, are based on the 80 zloty to a dollar exchange rate. This creates a significant warping in economic bookkeeping.

This state creates the necessity for a renewed revision of the supply prices of basic materials and raw products and a need for readjusting those prices to the level of a uniform currency exchange rate. It should be anticipated, however, that the 80 zloty to a dollar exchange rate, which has been in force from 1 January 1982, will turn out to be inadequate in this instance. This is caused by the strong increase in the unitary cost of export and, by the same token, the deterioration in the profitability of export during the 1979-1982 period (especially after 1 January 1982).

The increase in the unitary cost is only partially a result of the earlier mentioned increase in producer prices. Rather, the decisive cause is the

increase in the nominal unitary cost of production in manufacturing which resulted from the decline in work effectiveness, accompanied by a simultaneous increase in nominal wages and in other production costs. Comparing the years 1979-1982, it can be estimated that the average nominal wage has increased by approximately 5 percent (with an unchanged employment rate); the increase in the amortization costs will be slightly lower [than 5 percent], while the cost increase of imported materials will be higher [than 5 percent]. Yet, at the same time period the decline in production has been in the 25 percent range. This means that the unitary nominal cost of production has increased twofold between 1979 and 1982. Because of that, a huge deterioration in the profitability of exports can be expected, and therefore an appropriate raise in the currency exchange rate, probably to the level of about 100 zloty to a dollar, may be necessary. However, the extent of the actual situation cannot be known until the results of the first months of 1982 are available.

Of cardinal consequence are the principles on which the currency exchange rates are based and the criteria for changing their level, alongside with the concrete level of currency exchange rates. In conformity with the present regulations, the level of currency exchange rates has been tied in with the level of export production costs. This amounts to implementation, in a modified form, of the theory of parity of the purchasing strength of currency.

In view of the nonexistent currency market this criterion should be accepted as a correct one. Its application, however, may create difficulties, since it demands an insightful analysis based on precise statistical data which are only available after a delay. For that reason it would appear suitable to consider simplification of that formula through accepting the average cost of export, rooted in an appropriate proportional superimposition, as the basis for revisions. Statistical research shows almost full convergency in both the statistical criteria and the data for the calculation of the second one is considerably easier to obtain.

Even more important is the consistent utilization of the uniform currency exchange rates in the entire foreign trade, and that includes the fixing of producer prices for basic raw products and imported materials (and thus also, domestic raw materials). This means that there is a necessity for introducing further important changes in the level of producer prices. This issue still meets with wide resistance in those organs which are responsible for price policy, and demands a thorough discussion and a final resolution.

Balancing Trade Turnover with Socialist Countries

Warsaw HANDEL ZAGRANICZNY in Polish No 1-2, 1982 pp 8-9

[Article by Jolanta Zalikowska]

[Text] The level of trade exchange with Poland's major socialist trade partners that has been determined in the trade protocols for year 1981, indicates a slowdown of trade increase (i.e., a decrease) in comparison with the 1980 level. The decline in the tempo of increase of Poland's [trade] turnover with the CEMA countries actually had begun to take place earlier

(the years 1978-1980)⁵. From the year 1981, we have been observing in our partners a tendency to strongly balance the basic commodity groups turnovers (particularly in the groups of raw materials, fuels, and other materials) in trade with Poland.

The main reason behind the close adherence in 1981, by the GDR, Czechoslovakia, Hungary, and Rumania, to the regime of balancing the trade turnover, is the compiling, over several years, of difficulties with Poland's performance in regard to agreed upon deliveries [to those countries] and incomplete fulfillment of export obligations. The most serious (and most painful to our partners) collapse of Polish export, mainly the raw materials export, took place in 1980. This had the impact of stiffening the positions of those countries in trade negotiations for the year 1981. The trade protocols for that year were signed, in general, during the first quarter of 1981, when the symptoms of full crisis in the Polish economy had already occurred. This situation--distinctive, inter alia, in such phenomena as the greatly diminished export potential, accompanied by the increase in demand for imports from the CEMA countries, the extremely high level of indebtedness to nearly all capitalist countries, and an unfavorable balance of payments to almost all CEMA countries⁶--has caused the loss of Poland's credibility as a trade partner. The difficulties of some CEMA countries, manifested in shortages of raw materials and the diminishing dynamic of their economic development, have only compounded the problems. Like Poland, the European CEMA countries are forced to intensify and concentrate their export to capitalist countries and the USSR. This is the result of their indebtedness to the West and of being forced to compensate for the increase in the prices of the raw materials imported from the Soviet Union.

All of this has created the following consequences among our partners: a significant centralization of the decisions pertaining to trade turnover with Poland; a drastic limitation of those transactions that increase the unfavorable balance of payments of Poland in bilateral turnovers; and leaning toward the elimination of indebtedness rigidity in balancing turnover with Poland, mainly in the area of the deficit creating [in trade with Poland], easily disposable in the world market, basic raw materials, fuels, and similar materials, and also--in some cases--other groups of goods.

In 1981, among the CEMA countries, only two partners, Bulgaria and the Soviet Union, were not applying the rigid balancing regime toward Poland and took no steps in response to the eventual lack of fulfillment in delivery commitments. The protocol for the 1981 Polish-Soviet trade estimated a 1.3 billion rubles surplus of imports over exports; in 1981 our export of fuels, raw materials, and other materials to the Soviet Union had decreased significantly, while the import of those goods from the Soviet Union has increased. The trade protocol for the 1981 trade with Bulgaria estimated a surplus of exports over imports in order to lower our indebtedness to Bulgaria. In recent years, Poland has consistently failed to fulfill its trade commitments with Bulgaria. In spite of this, Bulgaria has never responded with a retort and has not applied any stricter conditions in the balancing of turnover. In October of 1981, Bulgaria agreed to the continuation of our negative balance of payments

in the period of 1981-1985 at the level of 1/3-1/4 of the annual value of export from Poland to Bulgaria.⁷

The GDR is the most rigid enforcer of the principles of trade balances with Poland and observes them most strictly. This policy has been utilized in the Polish-German trade relations since 1971. In 1981, the GDR decisively increased the balancing regime of turnover with our country; that partner demanded, for the first time, that a monthly balancing be made for deliveries of certain goods within the group of raw materials and fuels. In the 1981 trade protocol, the GDR reserved for itself an unconditional tying of realization (both in terms of its value and the time) of the delivery to Poland of soft coal, diesel fuel, fluorites, potassium salt, polyetherane, India rubber, and rubber with the realization [by Poland] of the deliveries of coal, soft coal, and coke. The rate of export to import value of the above mentioned goods (agreed as the "equivalent" goods) was set at 1 : .8. The GDR strictly adhered to the above principles in 1981, while slightly delaying their deliveries until the Polish export was enroute. Only during the last weeks of 1981, following the imposition of martial law in Poland, was the position of the GDR substantially altered; we [Poland] have received significant deliveries of raw materials from East Germany even though our export of coal was suspended on 14 November 1981.

In 1981, the contracting and delivering of raw materials in trade with Czechoslovakia and Hungary was subjected to strict control by both of those partners. The principle of full equivalency was adhered to with total determination. In the case of the Polish-Czechoslovakian exchange, equivalent goods in the group of raw materials, fuels, and other basic materials were established at the end of the last five-year period. For exported coal and sulphur we are receiving caolin, magnesium, patent wire, printing paper, "float" glass, iron and steel casts, white oil, formic acids, polyethylene foil, cars, and crankshafts. With the exception of the detailed balancing of the mutual delivery of raw materials, the CSSR and Hungary were not applying the principles of balancing to turnover involving the other goods, yet strictly adhered to balancing the totality of trade turnover with Poland in order to prevent any further increases in Polish indebtedness. Both of those countries (similarly as the GDR) executed their deliveries with a slight delay in comparison to Poland, in expectation of a collapse of Polish export. This changed in December 1981 when we received from Czechoslovakia a large delivery of raw materials and other materials, including those which our economy did not lack. As part of relief deliveries, which were implemented by the CEMA countries in the middle of December 1981, Czechoslovakia has delivered to us [Poland] consumer goods worth about 1.5 million rubles (powdered milk, manna, powdered soups, pastries, meat-vegetable products). Hungary, on the other hand, has provided relief deliveries valued at 25 million rubles (medicine, articles for personal hygiene, flour, grains, household articles).

In 1981, Romania balanced its mutual trade turbovers with Poland in the basic goods group, which, however, did not indicate any unusual increase of rigidity by that partner, because traditionally Romania has been observing maintenance of the equilibrium of mutual deliveries in the group of goods with

all the CEMA countries, and applies balancing of goods in the group of raw materials, fuels, and other basic materials.

In 1981 Poland significantly decreased its import of raw materials and fuels to socialist countries. The export of coal to the USSR, the GDR, and the CSSR fell about 30-50 percent in comparison with 1980, and, in the case of Romania, that decrease was even larger. This created a corresponding decrease in our raw materials import from these countries (except the USSR) and had a significant impact on the overall level of the bilateral trade turnovers. The control utilized by our partners over the delivery of our raw materials surely has had some impact on the implementation of Polish export of raw materials to socialist countries in the period from January to October of 1981. Thus, in spite of the collapse in Poland's exports in the last weeks of 1981, the level of unfulfillment of Poland's commitments to those countries, in the area of raw materials, stayed considerably lower in 1981 than it did in 1980.

Nonetheless, the principle of rigid balancing of turnovers--when and where it was utilized--was not without influence on the Polish economy. The lack of consent, by some of the trade partners, to credit that part of the import indispensable to us, which we were unable to offset by the demanded export, was--considering the significantly reduced imports from the West--one of the factors which impeded forestalling the growing economic crisis and the collapse of the domestic market in Poland.

FOOTNOTES

1. Productive elasticity of supply import (i.e., an increase of that import induced by the increase of production by 1 percent) amounted to about 1.4 during the years 1957-1976, and featured an astonishing stability, rarely seen in economic research.
2. Compare: B. Wojciechowski, "Foreign Trade and National Income of Poland," Warsaw, 1979, and other research by the same author.
3. The method called gradual regression of multiple variables was used in the research; the slightly different in both inquiries determination of periods of elasticity changes in the result (to a degree) of utilizing the approach of rounding off numbers by using a sliding mean.
4. W. Hubner, D. Rosati, "Plan or prognosis," Economic Life, No 47, 22 November 1981.
5. It applied in the relatively highest degree to trade with the GDR, and in the lowest, to [trade] with USSR and Hungary.
6. At the end of 1980, Poland had a small advantageous balance of payments (17.1 mln of rubles) with Czechoslovakia only.
7. So far, Bulgaria is our sole trade partner with whom a Five-Year trade cooperation agreement, covering the years 1981-1985, has been signed.

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CSO: 2600/621

INVIOABILITY OF PRIVATE FARM OWNERSHIP GUARANTEED

Warsaw SLOWO POWSZECHNE in Polish 7-8-9 May 82 p 9

[Interview with Professor Marian Blazejczyk, director of the Agricultural Politics and Law Team of the Institute of the State and Law of the Polish Academy of Sciences]

[Text] Q: Professor, one of the basic tenets of the present agricultural political program is the strengthening of the legal protection of private agricultural holdings. Have the legal actions taken to date, for example, the change in the civil code, fulfilled the expectations of the countryside in this regard?

A: The legal actions taken to date concerning protection of private agricultural property have been in agreement with the expectations of the countryside, and they have begun the process of removing the accumulated psychological barriers which developed as a result of illegal violations of this property in past years. These actions, however, cannot be fiction. The essence of the legal guarantee of the inviolability of private agricultural property does not lead only to a semantic sounding of a normative settlement. The effectiveness of the actions is also determined by the character of the sanctions applied for illegal violations of property and by the conditions set by law against the imperious intervention of the administration in executing the law concerning this property, and their consequent obligations. Therefore, in the feeling of the rural community, the established legal guarantees attain full credibility only after verification of their effectiveness in practice. So, at present, a rigorous and impartial respect for the guaranteed right of private agricultural property has enormous significance.

There is no doubt that in the opinion of the farmers, one of the measures of the effectiveness of the legal guarantees of the inviolability of private agricultural property will be the acceleration of suits currently in progress for the restoration of property taken over illegally for the state in earlier years.

Q: Professor, the legal basis for the restoration you mentioned is the Rzeszow social agreement stating that in all cases of illegal or glaringly unjust appropriation for the socialized economy, of property belonging to

private farms, it must be returned to the owners and, when this is not possible, compensation in the form of other real property or money must be paid. What has occurred, in practice?

A: A highly encouraging phenomenon is that the above mentioned matters moved at last from a standstill, and that we have more and more made restitution to aggrieved farmers, whose farms were taken from them illegally. This though is just the beginning of an extensive and very complex endeavor. The entire action was entrusted to the voivodship land surveying bureaus, which compiled all the grievances of farmers from given voivodships, which were previously directed to both the governors, as well as to central organs and institutions. The number of complaints, as well as their complex character, creates misgivings that disposing of them in the pre-determined time exceeds the capabilities of the bureaus. Confirming this is the very small percentage of matters taken care of thus far, 3-5%.

Q: Are these complaints justified?

A: Unfortunately, the great majority are. Among the appealed decisions of the gmina heads, one does not find decisions made in accordance with legal requirements, and some of them are an expression of unbelievable amateurishness and bureaucratic arrogance. For example, by Decision No. 7019 of 30 September 1977, gmina head Latowicz, of Siedlce voivodship, appropriated for the state the farm of Marianna A. because the level of production on her farm was not higher--yes, this is no mistake--than the average in the gmina on similar soils. In other words, the gmina head punished her for having achieved, not record yields, but only yields of average level. This is a truly astounding attempt at increasing agricultural production.

Also distressing is the fact that the grievances against these types of decisions are often examined by an individual without the proper legal qualifications. As a result, there are cases of protecting poorly understood authority of the administration, and the authority of its imperious decisions. This is shown in decisions which do order the return of farms to the aggrieved farmers, but in which the claim of an illegal or glaringly unjust takeover of the farm for the state is ignored. Therefore, such decisions are imbued with a quality of charity on the part of the unerring administration.

An example: it was decided to return the farm of Franciszek W. from Osiecko gmina, Siedlce voivodship, to him. In the letter in which the Voivodship Bureau of Land Survey and Agricultural Land informs the farmer of this, it tells him that it is not possible to return the entire farm because part of the land had been sold to another farmer, as a result of which Franciszek W. was awarded restitution. It was emphasized, once again, that the farm under consideration was taken by the State Treasury for an assessment due the office on 23 September 1975 because it had a low level of agricultural production resulting from negligence.

The decision of the head of Osiecko gmina of 23 September 1975 is a clear example of abuse of authority. It sounds terrible but in the justification for one of the main conditions leading to the takeover of the farm for the

state, it was acknowledged that for many years the farmer had cooperated with the agricultural unit of the socialized economy. In addition, as in the case of Marianna A., it was alleged that Franciszek W.'s level of production was not higher than the average in the gmina on similar soils.

And, once again, the legal basis was not given--because there is none and cannot be--justifying the demands, from the farmer, of leadership in agricultural production and making him show above average yields under threat of appropriating his farm. For that reason, it is worth broadcasting the example of Skierniewice voivodship, where, for handling the complaints of farmers, a several-member group of specialists, acting under the direction of a lawyer, namely the assistant director of the Voivodship Bureau for Legal Matters, was organized.

Q: Professor, from the above, the conclusion is that initiated restorative action gives rise to many important and complicated legal problems, and also theoretical problems, demanding careful investigation.

A: Of course, this is true, since it is probably not necessary to justify the great importance for agricultural production and for overcoming the crisis in our agriculture, that an efficient, carrying out of restorative action, which satisfies the thesis of autonomy for the farmer, will exist. The analysis of what has been done thus far in this area is, unfortunately, not good, and the biggest threat to the entire action is the poor legal preparation of persons handling the complaints of farmers, and the evaluation of the legality of decisions made in past years by gmina heads.

The majority of farms appropriated by the office for the state were taken over on the basis of Article 9 of Act 2 of the Law of 29 May 1974, concerning retirement for farmers, maintained in force by the Law of 27 October 1977 concerning retirement benefits and other services for farmers and their families.

The above prescription allows the possibility of the office appropriating for the state a private farm if it shows a low level of production, although the farmer from whom this property is taken is entitled to retirement or disability compensation assigned in a manner prescribed by law concerning retirement benefits for farmers.

Q: Still, neither the 1974 law nor the 1977 law defines the concept of a farm showing a low level of production, referring in this regard to the order of the Minister of Agriculture of 26 March 1968 in the matter of identifying farms for categories of low level of production as a result of negligence and on the matter determining the outlay necessary for revitalizing the soil, given on the basis of, and for the purpose of fulfilling the Law of 24 January 1968 concerning compulsory repurchase of properties constituting farms.

A: Unfortunately, experiences to date have shown that local organs of administration oftentimes are completely ignorant of the legal principles which they apply in such an important matter as the right to private

agricultural property. As a result of the justification of the decision about the office taking over farms for the state on the basis of retirement regulations, this has raised such circumstances, as the civil status of the farmer, additional employment outside of agriculture, lack of delivery of agricultural goods to socialized purchase centers, renting out of parts of farms, employing people from outside the family, etc. At the same time these circumstances have absolutely no significance for classifying a farm as showing a low level of production and appropriating it for the state.

Q: How then does one counteract this phenomenon?

A: First of all, through a proper selection of cadre and appropriately training them. With the shortage of professional literature, the mass media can play an important role here. Unfortunately, as has been the case, many informational errors appear in the media. This is not without significance in actual practice because local administrative workers who handle the matters discussed above, often utilize the guidance supplied by the press.

For example, many misunderstandings in the field were caused by an editorial article by J. Brodzki entitled "And Still Neglect..." published in November, 1971, in one of the central newspapers. In an effort to justify the legal correctness of the decision of the head of Oleszyca gmina, of Przemysl voivodship, which took the farm of a married couple, Maria and Feliks O., the author made an unfortunate interpretation of the provisions of the already mentioned order of the Minister of Agriculture of 26 March 1968, concerning the matter of identifying farms showing a low level of production. In the editorial article of J. Brodzki, the referred to provision reads as follows: "By low level of production is understood the situation where grain yields on a farm are lower by at least $\frac{1}{3}$ than the average yields in a given village, cattle stock less than 0.5 head per 1 hectare and not all arable land is used agriculturally."

In the authentic interpretation of this provision, however, low level of production is understood to be a situation where not all arable land is utilized agriculturally or yields of four grains, and of potatoes, are lower by at least $\frac{1}{3}$ than the average yield obtained in a given village, and also cattle, hog, and sheep stocks total less than 0.4 convertible head per 1 hectare of cropland.

This diametrically changes the look of things because in the order of the Minister of Agriculture for classifying farms in categories with low production in a given village, there must be not only grain yields lower by at least $\frac{1}{3}$ from the average, but also low potato yields, and low production can be talked about only when at the same time the amount of stock of three varieties of animals in combined conversion to 1 hectare of cropland amounts to less than 0.4 convertible head, and not 0.5 head of cattle as given in the mentioned article.

Also, in the article, an immeasurably important item was skipped, namely, that with the degradation of a farm to the category of low production, the

element of the fault of the owner must appear. Without proving this, on the basis of the discussed order of the Minister of Agriculture, I emphasize, a given farm absolutely cannot be classified as showing a low level of production. Also meaningless was the circumstance that Mr. and Mrs. Feliks and Maria O. rented out a part of their land, because the provisions require only that arable land be utilized for agricultural purposes. Whether it is cultivated by the owner himself, or by a tenant or other user, is completely irrelevant.

Therefore, I think that with this type of matter, correction of every mistake in the press is essential and necessary, because from my observations, it is evident that a mistake in a seemingly insignificant published item can cause much confusion.

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CSO: 2600/612

LONG-RANGE HOUSING CONSTRUCTION POLICY ASSESSED

Housing Construction Industry Development

Warsaw FAKTY I KOMENTARZE in Polish No 15, 14 Apr 82 pp 5-13

[Article by Zbigniew Bryczkowski]

[Text] The situation in housing construction, even considering the unsatisfactory condition of the entire national economy, is particularly bad. The waiting list for apartments not only is not diminishing but is growing disturbingly. In some regions, one must wait 10 or more years to receive the key to one's own apartment.

These statements are understandable in light of 1981 results. Scarcely 183,000 apartments were made available during that period, or 47,000 less than planned. The plan was not an imposing one and did not ensure ending the lines before housing cooperatives.

The report on the condition of the economy clearly states that housing construction is not keeping up with existing social needs; the number of apartments built has fallen to 1967 levels. Thus, we have regressed 14 years in this field that is so important from the societal viewpoint. The need to counteract further regression in this field is obvious.

The 1981 results are already history. What is the situation in housing construction this year, at the end of the first quarter? According to the estimated data, during the first 3 months, less than 12 percent of the apartments projected in the annual plan, was transferred. This leads us to expect that during the first half of 1982, 25 percent of the apartments planned for this year will be put to use. This represents a serious threat to the execution of this year's plan. It is difficult to accept such a situation for many reasons.

First, the development of housing construction, which would tie up the financial means of the population, would help to change the consumption structure and eliminate the inflationary curve, thereby becoming an important factor for leading our country out of the crisis.

Second, having one's own apartment is a very strong incentive for increasing labor productivity. Thus, an increase in the supply of apartments achieves one of the primary goals of the current economic reform; i.e., an increase in labor productivity.

Third, while a decline of 30 percent in the number of new apartments available from 1978 through 1981 does not depart from the general tendencies in the economy, unlike other subsectors of production, it mainly affects one generation--young people. This fosters attitudes of hopelessness, internal emigration and even emigration for the purpose of earning a living, as occurred in 1981. An increase in housing construction gives young people an opportunity for acquiring stability and for raising a family. Other than food, an apartment is the foundation of existence of every person. The great shortage of apartments in Poland makes it impossible for citizens, in particular the young generation, to develop the proper sort of family life. It is a cause for severe social conflict.

For these reasons, the resolution of the housing question is one of the most important goals of social and economic policy in the 1980's.

At the beginning of this year, the government began working up a program of housing construction. After much discussion--e.g., in the PZPR Central Committee Commission on Economic Reform and Economic Policy--that included representatives from the Sejm Commission for Construction and the Construction Materials Industry, a draft program has been prepared. The draft has not been finalized and certain modifications are still possible. However, we can prevent its basic assumptions, which will essentially remain unchanged.

The elimination of the housing problem by the end of the 1980's necessitates the annual construction of 450,000 apartments beginning in 1983. Given our economic situation, this is an unrealistic task. Does this mean that we should wait with our hands folded? That is unacceptable, both politically and economically.

Despite unfavorable external and internal conditions, everything possible will be done to halt the decline in housing construction and then to increase the number of apartments put into use. It is envisaged that until 1990, from 350,000 to 400,000 apartments will be constructed yearly, including 150,000 to 200,000 multifamily units (blocks). Consequently, these years will show a distinct improvement in housing, when the waiting period for an apartment will be shortened. To translate this into figures, there will be a reduction in the index of the apartment shortage expressed in the number of households per 100 inhabitants. In 1981 this figure was 116; in 1990 it is to fall to 108. While this falls somewhat short of the ideal, progress will clearly have been made.

Not only will the implementation of this program require the full mobilization of all construction enterprises and the expansion of their production potential,

but also this must become a national task. This is no exaggeration. Without the active commitment of nearly all ministries, voivodship governors (under whose jurisdiction construction enterprises fall), gmina managers and finally those who desire to have their own apartments, it is difficult to expect that this program, a bold one given our conditions, will be implemented. All reserves enabling an improvement in the housing situation must be activated. Improvement depends not only on the construction of new apartments but also on the better utilization of the existing housing potential, which is not at all meager.

Until recently, the maintenance of apartment buildings was treated carelessly. Too little money was designated for maintenance. As a result, even postwar construction from the 1950's quickly became dilapidated, not to mention 100-year-old buildings. As a consequence, the large number of buildings scheduled for demolition due to their total depreciation has reduced the impact of new construction. People from the demolished houses had to be given apartments. Unfortunately, the understanding came too late that housing does not consist only of new homes built at the edge of old towns but also of those that are 30, 50 and 100 years old. In order to halt the rapid depreciation of apartment buildings managed by people's councils or under private management, an estimated 1 million apartments would have to undergo repair during this decade. Approximately 39 billion zlotys would have to be set aside each year for this purpose. The building proprietors must cover part of this amount. In conjunction with this, the possibility of loans granted for this purpose, as well as greater freedom in determining rents in apartments vacated by previous tenants, are provided for.

The program stipulates that a greater number of new homes be built by citizens at their own expense. This is the only way to increase significantly the number of buildings being erected. Of course, the great increase in construction material and labor costs must be considered. For this reason, the government's draft program provides for a change in the principles of providing credit to enable the citizen of average means to build his own home. The increase in state aid moves in two directions. First, the amount of credit will be increased to 1.2 million zlotys. Second, to make the amount of monthly installments socially acceptable, the program extends the repayment period to 50 years, while young couples, miners, teachers, railroad workers and the populace of small cities and villages would have the credit repayment period extended to 60 years. Third, the program defers the repayment of credit by young couples for 5 years; those who have acquired the right to cooperative housing but relinquish this right in order to undertake the construction of a single-family house would receive nonrepayable financial aid amounting to 100,000 zlotys. Fourth, the program provides for assistance to persons building their own homes from the housing fund of enterprises.

Of course, money alone will not determine the scope of construction, but to an equal degree, the availability of construction and finishing materials, the

production capacities of enterprises, the preparation of developed land with structures and the like. According to reports from construction sites, a major cause of the delay this year in putting new housing to use is the lack of finishing materials and furnishings (glue, PCV [polyvinyl chloride], gas stoves and heaters). The undesirable phenomenon of less discipline among work forces has also been observed, together with a related decline in labor productivity.

Emergency measures have been undertaken to reduce these shortages. The Council of Ministers Economic Committee has allocated 1 million additional tons of coal for the needs of construction. Part of this coal will be exported; the foreign exchange thus acquired is designated for the purchase of the necessary components for the production of glues, paints and finishes needed in construction. On the other hand, the current economic reform "forces" construction crews to increase labor discipline.

An improvement in the construction situation this year--and everything possible is being done to accomplish this--will allow a better start in future years. To this end, those factors unfavorably affecting housing construction must be eliminated. They include:

--The great material-intensiveness of construction. The introduction of the "large-panel" monoculture has caused an increased use of cement, steel and power. While it is difficult to shift overnight to different systems, different construction techniques will be introduced systematically. In particular, an increase in the share of single-family construction will enable the better utilization of local raw materials and construction materials, with a significant savings of materials and power. To this end, all idle brick plants, cement plants, gravel pits and the like should be inventoried and quickly activated (a single-family dwelling requires approximately 30,000 to 40,000 bricks, for example.)

--The technological infrastructure. The unfulfilled tasks in this regard are especially numerous, likewise hindering the development of housing construction. According to careful estimates, in order to implement the planned volume of multifamily and single-family housing construction, until 1985, 40 billion zlotys must be designated for the infrastructure and, after 1985, 70 billion zlotys must be designated annually (in pre-1 January 1982 prices). These are outlays for such areas as roads and the transportation network, water intakes and treatment plants, heating plants, sewerage, sewage treatment plants, the gas industry and the like. The shortage in the technological infrastructure is a barrier to housing construction development. A major financial, organizational and material effort will be required to surmount this barrier.

--Work organization in construction. Shortcomings in this field are considerable. The previous organization did not foster either productive work or good work quality. The economic reform will not pay for poor work. A new wage system, adapted to the difficulty of work in construction, will provide bonuses

for good, hard work. Proper work organization will require the appropriate amount of specialized equipment, power tools and simple tools, as well as spare parts and efficient transport. Construction workers cannot lose time waiting for a crane, cement or tools, as now often happens.

These are only the major problems (among a very large group of problems) that must be resolved if we wish to attain the envisaged volume of housing construction in 1990.

A change in the structure of construction enterprises is likewise a crucial matter. The mania for bigness that characterized the past decade created a situation in which there are essentially no suitable contractors to build apartment houses in small communities and villages or to build single-family dwellings in large cities. And percentage-wise, this type of construction is on the upswing within the total picture of construction picture. Thus, there will occur the development and advancement of such forms of construction groups as home construction associations, plant cooperatives and cooperative and private construction enterprises whose economic system can guarantee housing construction by utilizing local construction materials. The assistance of factories to construct housing for their employees continues to be counted on.

Initiative, enterprise, resourcefulness and the approaching acquisition of one's own apartment command a higher and higher price. Of course, this is understood to transpire within the framework of the legal regulations and not, as sometimes practiced in the past decade.

More apartments means not only the construction of new ones but also the proper housing policy. Unfortunately, this does not always comply with society's needs. For example, many housing needs can be facilitated through exchange. However, impractical regulations make exchanging apartments basically impossible. This is tied in with the difference in rents in old, primarily state-controlled housing and new, mainly cooperative, housing. Those occupying apartments that are too big for them are for the most part elderly people whose children have started their own families and have moved or those whose spouses have died. They have lived in the same apartment for 20 or 30 years. They would gladly exchange for a smaller one, provided that they would not have to pay a supplemental amount. However, when they leave low-rent state-controlled housing, they must pay for the amortization of bathroom plumbing fixtures, the kitchen and the like, which is currently within the range of 100,000 zlotys for M3 [no. 3-type apartments] to M5 [no. 5-type apartments]. Moreover, the rent in a cooperative apartment (M2), built in 1980, for example, is much higher than in three-room state-controlled housing. These are disincentives for exchanging apartments. Unfortunately, the change in regulations is taking place more slowly than the construction of new apartments.

As long as there are not enough apartments for all, the benefits of exchange for improving housing conditions cannot be ignored. There is a dual advantage: the pressure to construct new homes will be reduced to some extent and the atmosphere surrounding this problem will improve. The order of the day is to prepare a simple system for exchanging apartments.

A certain small number of apartments can be acquired by the consistent implementation of the principle that one family can occupy only one apartment. This principle fulfills the demand for social justice. On the national level, not more than a few thousand apartments are acquired in this way, but what is most important is that there be a healthy atmosphere regarding these matters.

As already pointed out, the housing construction program must become the entire nation's program. For it is not merely an economic problem but a political problem as well. Consequently, all party echelons and organizations should give it the proper attention. This refers especially to the POP [Basic Party Organization] in economic units, institutes and scientific-research centers that have direct or indirect contact with housing construction. Among other things, they should:

- Develop innovative attitudes among employees and the managerial cadre in methods of planning, design, organization of the investment process and execution and use of housing resources;

- Make periodic evaluations and analyses of sociopolitical phenomena engendered by the method and rate of implementation of tasks in the area of improving housing conditions;

- Inspire the managerial cadre, social and youth organizations and scientific-technical associations to solve housing problems in a modern way, in accordance with social needs and the newest technological requirements;

- Control the implementation of their own resolutions and echelon guidelines concerning the housing problem and enact the recommendations of the cadre regarding employees of enterprises and institutions;

- Inspire and periodically evaluate the activity of persons and institutions responsible for implementing an improvement in housing conditions.

At the same time, every party organization should be especially sensitive to the housing needs of the employees in the plant or institution in which it is active, particularly now, during the suspended activity of trade unions.

It is no exaggeration that an increase in the volume of housing construction will be an important factor for leading our economy out of the crisis. It will create an incentive for better work among the most resilient part of society--

the young generation of 20- and 30-year olds. More favorable conditions than generally exist for meeting the needs of this generation for their own apartments must also be created. Just as we are dealing with the so-called inflationary curve in the economy, there is in social life a sort of "demographic curve" in the form of hundreds of thousands of young families without their own housing. A reduction of this "curve" is a task for the current decade.

The development of rural housing construction will improve living conditions for people employed in agriculture. This should have a favorable effect on production results as well, since a high standard of housing is closely connected with a high standard of agricultural engineering, as demonstrated by the experiences of countries more highly developed than our own. The priorities for rural family housing construction must take into account both material supply and execution.

During the next few weeks, the program for improving society's housing conditions will be looked at in terms of the potential of the national economy and the financial reserves of society. The tasks specified in this program are difficult. The citizen's more rapid acquisition of his own residence will depend upon their successful resolution.

Formulation of Housing Program

Warsaw ZYCIE GOSPODARCZE in Polish No 16, 9 May 82 p 9

[Article by Tadeusz Zarski]

[Text] Housing needs have a local character: they occur in specific locations and only there can they be satisfied. Hence is the need for grassroots programming of housing development.

The basic organizational units of such programming should be the institutions engaged in the construction and management of housing at the local level; i.e., housing construction cooperatives, State Housing Enterprises [PGM] and the specialized services engaged comprehensively in the development of private construction. Local authorities must coordinate the actions of all these institutions; their duties should include the preparation of territorial housing programs and housing construction, first on the gmina or city scale and the next on the voivodship scale.

Such programs should outline plans in housing investments and indicate the method for implementing these plans, primarily through local material and financial means. If these sources are insufficient to implement investment plans, an additional source would be necessary. Programs prepared in this way could create a basis for the preparation of nationwide housing programs. Of

course, the central authorities cannot restrict themselves to the usual summing up: they must not [sic] compare the reported need for material and financial means with the existing production potential capabilities, the investment potential and the financial potential at the central level.

The creation and operation of such a procedure requires fulfilling specific initial conditions, such as the attainment of autonomy by programming organizational units. The concession of the necessary prerogatives to local authorities, the potential of their procurement of sources of financial means independent of the central authority, the proper establishment of services coordinating housing development at the local level. In a situation where conditions for grassroots housing construction do not yet exist, current program efforts at the central level should be treated as the preliminary stage.

Among the major tasks of the current stage are the definition of housing needs for the current decade and techniques for meeting these needs; the adoption of specific preliminary assumptions regarding the goals to be attained; the definition of tasks to be undertaken at the central level leading to the implementation of these goals.

The issues include the designation of the direction and amounts of central investments for housing development, the undertaking of organizational tasks ensuring suitable output potential and repair-construction efforts, a guarantee of the required credits from central funds and the preparation of the basic principles of housing policy and the like.

Estimates prepared at the Institute of Environmental Development indicate that, between 1981 and 1990, 3.2 million dwellings must be built to ensure all families (more precisely all households) their residences (without considering the quality of these residences). Of this general number, 1.7 million represents the existing shortage at the end of 1980 and 1.5 million represents the increased need from 1981 to 1990, engendered by the numerical development and structural transformations in the population. One characteristic is the primarily urban need (approximately 70 percent).

The needed replacement of technically depleted and depreciated housing resources is estimated at 1.2 million dwellings for 1981 through 1990. This need occurs primarily in rural areas (approximately 55 percent), where a large part of the resources, especially prewar resources, has depreciated, with a low consumer value. Added to these is the need to increase the indispensable reserve for the proper management of housing resources (facilitating repairs, modernization, exchanges and the like). It is generally accepted that 100,000 apartments must be set aside for this purpose. The total housing need from 1981 through 1990 is 4.5 million residences, of which 2.9 million are needed in cities. If 183,000 new apartments were made available in 1981 (the peak in this regard was 1978, when 284,000 apartments were built), then we cannot have

any illusions about the prompt satisfaction of all indicated quantitative needs. Consequently, a choice must be made and priority for an apartment must be given to specific categories.

In cities, where multifamily housing construction predominates--creating great inconveniences when people do not have their own apartment--where the housing shortage is especially great and an increase in needs is expected, a clear priority is to ensure that the maximum number of families and self-supporting single persons have their own apartments. Of course, this means that some urban families must agree to occupy defective apartments. Their rent can be somewhat reduced and the needed repair and modernization can be extended from other sources.

Rurally, where single-family housing predominates, making the shared occupation of dwellings somewhat easier than in cities, doubtless a major role will be played by meeting the need for exchanging those housing resources that do not meet the qualitative requirements of the young generation. Satisfying these needs is one of the more important conditions for keeping this generation in the village. Of course, of equal importance is an increase in housing resources for those families who will organize new farms, as well as for those people who serve the village (e.g., teachers, doctors, mechanics and the like).

The assumption that in cities priority should be given to those needs associated with guaranteeing apartments to families who do not have them, underlies the distribution of new construction to cities of a certain size from 1981 through 1990. As evident, from the viewpoint of occupying one's own apartment, the situation of residents of the largest cities is the most difficult. The population increase is concentrated in these cities; hence, their share in the general urban population continues to grow. Thus, it is necessary to concentrate housing construction in the largest cities.

According to data from a current GUS [Central Office of Statistics] report, there are significant differences among cities of various sizes regarding the ratio of multifamily to single-family construction. Thus, from 1976 to 1980, in the largest cities (population of 100,000 or more), the share of single-family construction was only 6.2 percent; in cities numbering 50,000 to 100,000 inhabitants, this share equaled 11 percent; in cities with a population of 20,000 to 50,000, 14.7 percent was single-family housing and in cities of less than 20,000 inhabitants, 26.1 of the dwellings was single-family housing. Even in the smallest cities with a population less than 5,000, from 1976 to 1980, approximately 38 percent of the dwellings built was single-family construction and 62 percent was multifamily housing.

In light of these facts, from 1981 through 1990, multifamily construction must clearly predominate and the very rapid development of single-family constructed cannot be expected.

In addition to these facts, a number of other considerations support this direction of development; namely, the fact that, at the end of 1980, 1.6 million adult members of cooperatives, who paid their entire deposit, were waiting to be allotted an apartment in multifamily housing; the shortage of construction lands in large cities requiring the intensive utilization of these lands within the bounds established by city planning standards; the very high cost of housing construction in large cities emanating from the high cost of land and the high labor costs, making this construction available only to the most affluent; the recently reduced level of real wages for most city residents, the decided majority of whom can afford only cooperative tenant-type housing (which, incidentally, will become considerably more expensive).

The residents of small cities and those residents of large cities who decide to build on adjacent rural lands have greater possibilities for single-family construction. In the case of residents of the largest cities, these lands should be quite a distance from the center city (for example, for Warsaw residents they are located between Otwock and Pilawa). There is more available land there, it is cheaper, and construction services will be more accessible and cheaper. Of course, most investors will have to work on their own to develop lots and erect buildings.

In contrast to cities, where multifamily housing construction clearly must predominate during the current decade, in rural areas the vast majority will be single-family construction. This emanates from the fact that the most important category of rural needs is replacing old, dilapidated buildings with scattered-site construction. Other considerations supporting this are the private possession of construction lands; the possibility of utilizing the labor of one's own investors both to produce some construction and, in construction work within a very large scope, the greater financial capabilities of the population engaged in private farming than the urban population supporting themselves as wage earners or on annuities and pensions. The specific nature of rural occupations and the rural life style indicates that single-family housing likewise should be used broadly in socialized construction for farm and forest workers.

We may expect rural construction to develop at a considerably more rapid rate than in the 1970's. In conjunction with this, we should anticipate a reasonable increase in the share of single-family construction within the total construction picture in Poland. The optimistic assumption that this rapid development within the next few years will solve our housing problems is unrealistic.

Keeping in mind the general uncertainty regarding economic development in the coming years, I do not envision the need and the possibility of strictly defining the dimensions of construction for the current 5-year period, or the following 5-year period. It is more advisable to establish goals by stages that we wish to achieve within a given period.

To be more specific, given the current difficult economic situation, such a partial goal would be 280,000 to 290,000 dwellings per year by the end of the stabilization period; i.e., by 1985. This level, along with the assumption that demolition in cities would be minimized, would enable us to balance the volume of construction with the increase in needs and to reduce slightly the growing housing shortage. This is ostensibly an easy task, since it means merely a return to the 1978 level of construction. In practice, however, it means the restoration, the reconstruction and the supplement of our existing output potential, broadly understood, as well as large municipal investments both to develop lands and to purchase infrastructural equipment.

A more far-reaching goal should be an annual level of approximately 400,000 dwellings by the end of the 1980's. This would enable us to reduce the shortage and it would create a good foundation for meeting the vast majority of quantitative and qualitative housing needs until the end of the 20th century. This task is considerably more difficult than the previously stated one. It requires the investment of an enormous effort in the development of our construction potential, broadly understood. It likewise means the need to designate vast material and financial means for these same housing investments.

Obviously, the attainment of these goals is impossible without basic structural changes both in the sphere of the distribution of the national income and in the sphere of consumption. Without the slowing of consumption in other fields, we will never resolve our housing problems.

More Housing Construction

Warsaw RADA NARODOWA GOSPODARKA ADMINISTRACJA in Polish No 6, 19 Apr 82 pp 1-2

[Interview with Tadeusz Opolski, minister of construction and the construction materials industry by Jerzy Pawlak; date and place not given]

[Text] [Question] Minister, last year, housing construction was worse than bad. Results after 11 months were poor. During this period, construction put into use less than 140,000 dwellings. This is an average of 13,000 per month.

[Answer] As you remember, the leadership of the construction and construction materials industry changed in November 1981. From our first days in office, we began to look for ways to make up for these important unfulfilled tasks, at least to some degree. There was little time. On our initiative, on 10 November 1981 the government decided to allocate an additional 300,000 tons of coal for construction. Otherwise, cement production would have been at a complete standstill. Other decisions were also handed down, increasing the allotment of the finishing materials so necessary in construction. Thanks to this, instead of the envisaged monthly average of 13,000 dwellings, in December an additional 12,500 dwellings were to be made available.

The December results surpassed these expectations. In the course of this 1 month, construction workers put into use nearly 44,000 dwellings. The apartments were better constructed. Numerous commissions checked for cases of a return to the disgraceful traditions of counting unfinished buildings; there were none. The buildings were available for immediate occupancy.

Altogether, 183,000 apartments were made available last year. This result had a mobilizing effect--this is no exaggeration. To digress slightly to between August and September 1981, adjustments to the construction plan for 1982 were prepared. At that time it was viewed darkly. Construction of 150,000 dwellings or less was discussed. December changed things. While the results were not the best (they reached 1967 levels), the work force began to speak of a recovery.

The improved work discipline and productivity observed since 13 December 1981 had a positive effect. The additional materials distributed for specific construction projects also helped. We ended the principle of "everything little by little."

[Question] What is your judgment of this result: was it a single spurt or the break in construction work that was so needed?

[Answer] It was definitely the break. In November 1981, we had already adopted the principle within the ministry that we should no longer hold back. "Not holding back" when adjustments were made to the plan for 1982 in September would have meant 140,000 dwellings, but in December it meant 183,000 dwellings. And this number likewise became the minimum program for the current year.

Based on our initiative and in close cooperation with the Central Housing Construction Cooperative Union, the Council of Ministers Economic Committee adopted a program of housing construction for 1982 in the range of 200,000 dwellings.

[Question] The tremendous housing demand requires major changes in construction organization, technique and technologies.

[Answer] The shortcomings in construction have accumulated over the years. It is not easy to change them, to eliminate them in a short time, but we are looking for ways and we are instituting methods of improvement. One of the most critical problems in streamlining construction work is the introduction of new principles of remuneration. Before their introduction a construction worker received 51 percent of his earnings for work done in conjunction with the construction task; the other 49 percent represented various types of fringe benefits and supplements. These two figures attest to the fact that the old system of remuneration has lost all of its motivational powers. The new principles of remuneration are closely connected with work quantity and quality.

We are expecting a great deal from the new economic reform, which is already having positive effects, including an improvement in work organization, a reduction in investor costs and an improvement in work quality. Recently I attended a meeting of the economic aktiv of the Wroclaw Enterprise of Engineering Work. I asked why they had such poor results in January and February. They answered that they had devoted their time to preparatory work and that they would go full speed ahead when the weather was warmer. They said that during the winter they could not afford to use 30 to 40 percent more fuel than in the spring months; they could not afford to have their machinery and equipment devastated, crumbling to pieces in the frozen ground. Here is an example that work forces are thinking economically, that they are counting their pennies.

The principle adopted by Wroclaw is becoming universal. While the first months of the year do not show extraordinary results, 80 percent of the buildings are erected. This guarantees that with the systematic deliveries of finishing materials, the number of buildings put into use in the coming months will increase considerably. We have been bound by the Council of Ministers Economic Committee to speed up construction tasks.

[Question] The contempt for cost effectiveness and the detrimental false savings have caused our apartment buildings, offices and factories to have one of the highest so-called heat transfer factors in Europe. This leads, on the one hand, to apartments being insufficiently heated and to the valid complaints of tenants and, on the other, to the excessive consumption of coal and electrical power. Construction and use of residences consumes an estimated 40 percent of extracted coal. Are these expenses justifiable? How will we meet the need, let us say, in 5 years?

[Answer] The problem of limiting coal and power losses in construction is of prime importance. We are bound by the government to present concrete documents in this socially and economically important field. We already have definite plans, recommendations, task deadlines, people and production units responsible for limiting material-intensiveness and power and fuel consumption both in the construction materials industry and in the construction process itself.

Large-panel technology is being condemned as bad and energy-and-material intensive. This is a misunderstanding. Certain elements of this technology are not suitable in Polish construction work and we will eliminate them. They include the frost-penetrating barrier and gable walls. In 1983, we will introduce new, considerably more advantageous construction solutions, the result of a competition held by our ministry, the Polish Union of Construction Engineers and Technicians and the Association of Polish Architects, as well as the successful work of construction research and development centers.

Changes are taking place not only in barrier walls but also in window construction. It has been decided in the ministry to use reinforced windows. While

this increases the amount of timber used, it decreases the heat transfer. Triple-pane windows will be used in apartments. Double-pane windows are already being used on staircases. This also reduces heat loss considerably.

The construction industry needs thermoinsulation materials, which are a major element for avoiding losses of heat energy. We have a shortage of these materials. We are producing a per capita amount of 3 kg of mineral wool and fiberglass. Meanwhile, in Sweden and Denmark this index is 10-fold higher; despite this these countries import additional thermoinsulation materials.

[Question] Where will the construction industry get the enormous amounts of thermoinsulation materials needed to create a real thermal shield for a building, to keep the heat in?

[Answer] We have already obtained investment outlays for the construction of two mineral wool factories in Malkinia and Zielona Gora. Thermoinsulation materials will be increasing gradually. The use of thermoinsulation material in walls means not only a considerable reduction in heat loss; it also reduces the weight of a building, limits the use of construction materials and reduces construction costs.

Each year we use 70 million tons of coal to heat apartment buildings, office buildings, factories and farm buildings. If we could cover every building with a 10-centimeter layer of mineral wool, our fuel needs would be reduced by 20 million tons of coal per year, saving the entire output of over a dozen mines. The current period does not favor investment; to meet needs for thermoinsulation materials we would have to allocate the monumental sum of 22 billion zlotys. We will have to expend 3-fold that amount for new heating plants, boiler houses, transmission lines and pipelines; there is not enough coal to meet a continued increase in heating and construction needs. Thus, simple cost effectiveness points to the best solution. This is the road that we will have to take, if not today, then tomorrow.

[Question] To a certain extent, builders must also earn monies for investments through better, more productive work. We can no longer reconcile ourselves to a situation that the frequent inspections report as "bungling combined with waste."

[Answer] We regret this situation, we are battling it; we see the basic solution in the implemented mechanisms of economic reform. They will absolutely prevent the waste of materials and equipment at construction sites, halting carelessness and incompetence.

What has been done thus far in cases of bungling or waste? Workers have been deprived of bonuses, reprimands have been utilized and in extreme cases disciplinary dismissals were made. These methods had the nature of a command affecting one person or several persons, while most often the entire crew was to blame for the bungling.

Now at construction sites there must be order and respect for property, for all employees feel in their own pockets the reduction in the use of materials and means of production and a higher work quality or, on the other hand, waste and corrective work caused by carelessness. Every interested party will reflect why he received a 7 percent or 8 percent annual raise and not 10 percent or more. He will understand that underlying this are broken construction elements and window panes, hardened cement, broken window frames or damaged mechanical equipment.

[Question] Mr. Minister, you spoke of this year's goal of 200,000 apartments. This will meet exactly 10 percent of the need. Two million families in Poland are waiting for their own apartments. Given this situation we cannot resist asking the question: How long will the lean years in construction last?

[Answer] At the beginning of our conversation, I especially stressed that construction crews showed in December 1981 that it is possible to work productively, to improve work organization and to keep corrective work to a minimum if the necessary materials and finishing elements are available. We will continue to increase deliveries of finishing materials and equipment by increasing production in plants within our jurisdiction: i.e., in cement plants, brick plants, construction elements factories and tar paper and insulation materials plants.

We will initiate methods for reducing materials consumption. These are not merely empty statements. This year we will receive additional coal deliveries. This will allow an increase in cement production of 2 million tons over last year's figure, for a total cement production of 25 million tons. We will produce a billion more units of brick, hollow brick and other ceramic products than last year.

Another task, to be implemented by voivodships, is the creation of conditions for use of local materials. In April we began meeting with the voivodship aktiv. We point out what they are able to take advantage of in their home regions, what machinery to use--usually machinery of ZREMB [Construction Machinery Plants] production--and where to get this machinery. We are counting on a large increase in the production of construction materials of local origin. We wish to return to the reasonable idea, raised but never implemented, of the small factory producing ceramic units in every gmina. It is worthwhile to bring this to fruition. The conditions are there and local organs of the state administration want to help. The implementation of these assumptions can be ensured relatively cheaply.

[Question] Since January 1982, the liquidation of associations of regional scope has been initiated; production enterprises are coming under the control of voivodship governors.

[Answer] Since April 1982, a new organizational structure is binding in nearly all voivodships, making the governor the disposer of all output capacity in housing construction, engineering construction and farm construction, as well as in repair enterprises located in his area. This is a vast production potential, worthy of rational utilization.

The decentralization process was very labor-intensive but it is already bearing its first fruits. In the Kielce Voivodship, production of 100,000 to 120,000 m² of wooden flooring has begun, eliminating problems with plastics. In practice, this production will meet construction needs in this voivodship. In Radom, authorities have undertaken a similar initiative, beginning the production of wooden floorboards there. Wherever possible we will obtain wood from windfalls, in this way helping both foresters and ourselves. Similar initiatives for expanding production from local materials and in this way aiding construction are forthcoming from other voivodships.

We need other ministries to help with deliveries of finishing materials, particularly metal, electrotechnical and chemical finishing materials; our coproducers must fulfill the deliveries specified in contracts. Not only will this determine the results for this year and the implementation of ambitious plans of giving new tenants the keys to 200,000 apartments, will also enable us to move on to other positive tasks. In this way, through a joint effort, before 1985 we will build 300,000 apartments per year. Other factors determining this increase will be new technologies, new construction methods, the rejection of false savings that we cannot afford and the new initiatives of construction enterprises and of the construction materials industry that the economic reform has unleashed.

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